Attachment and Self-Esteem as Predictors of Anxiety and Depression in Adults with Divorced Parents

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Declaration

This work is original and has not been submitted in relation to any other degree or qualification.

Signed:

Date:

Acknowledgements

With thanks to my dissertation supervisor, Dr. Linda O'Neil, and my Personal Academic Tutor, Dr Claudine Clucas, for their assistance and support with this piece of research.

Supervision Log

NAME:

SUPERVISOR: Dr Linda O'Neil

Date	Discussion topics
17/1/18	Chosen divorce project (approx. 250 questionnaires to be completed) Choose 3 variables - attachment, self-esteem and 1 other (self-efficacy, Umbrella study with 2 others. Read literature to aid with selecting variables and meet again 31/1/18 12.45-1pm.
31/1/18	Discussed Attachment to both parents when younger and then now to romantic partner, self-efficacy. Need to finalise variables by Friday 2/2/18. Start ethics form. Contact fellow researchers. Next meeting 14/2/18.
14/2/18	Questions: Method for ethics form - own questionnaire? How? Scales? When? Participants and recruitment over 18s. When to complete ethics by for check? Draft to Linda by March 1st by midday. Email to Linda. Next action - email ethics form before 12pm on 1st March. Meet after this.
8/3/18	Submitted ethics form. Will begin writing method section and reading for Lit Review.
20/7/18	Met to discuss data analysis as a 4. Arrange to meet before draft submission, individually is fine. Put data variable titles in for each question (short names so it doesn't mess up correlation table). Draft submission date 22nd August. Exclude the questionnaires where participants circled more than 1 answer.
31/7/2018 (Claudine)	Clarified SPSS output anomalies in data and sought how to address problems.

8/8/18	Checked results had been presented and analysed correctly. Next: Draft submission.
27/8/18	Submitted draft copy of progress so far.
4/9/2018 (Claudine)	Discussed the presentation of hypotheses and clarified issues relating to normality tests and regression.
17/9/18	Met to check and reflect on progress and sign Supervision Log

SIGNED

STUDENT _____ DATE: _2/10/18_____

SUPERVISOR _____ DATE: _2/10/18_____

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1. Abstract

Research within the parental divorce literature shows that adults who have experienced parental divorce experience higher levels of anxiety and depression. Attempts have been made to identify specific mediating factors associated with anxiety and depression and mixed findings have been reported. This study investigated whether attachment and self-esteem predicted anxiety and depression in an attempt to clarify the role of these factors in the complicated mechanisms associated with the relationship between parental divorce and anxiety and depression. A cross-sectional, between-subjects, survey design was used to assess levels of anxiety and depression (HADS), attachment to significant others (ECR), and self-esteem (RSES) in 329 participants. Significant differences were found in individuals whose parents were divorced, as they showed higher levels of anxiety, depression and avoidance-related attachment, and lower levels of self-esteem when compared to those whose parents' marriage remained intact. Self-esteem was found to be a unique predictor of anxiety and depression in participants with divorced parents, but attachment to a romantic partner, mother and father was not. Identifying self-esteem as a predictor of anxiety and depression following divorce, provides an opportunity for practitioners to utilise interventions to sustain and build self-esteem around the time parental divorce occurs, as a way to reduce the developmental change that leads to anxiety and depression in the long-term.

Attachment and Self-Esteem as Predictors of Anxiety and Depression in Adults with Divorced Parents

2. Introduction

2.1 Parental Divorce

There is a large body of research evidence which shows the effects of parental divorce to be associated with behavioural (e.g., Sirvanli-Ozen, 2005), academic (e.g., Andersen, 2014), and psychological problems (e.g., Størksen, Roysamb, Moum, & Tambs, 2005; Washington & Hans, 2013), including anxiety and depression. Parental divorce is the second most common type of adversity faced during childhood, with the first being family socio-economic disadvantage (Sacks, Murphy, & Moore, 2014). Divorce has also been linked to a decline in socio-economic status, as household financial income is stretched to support two households rather than one as parents separate (Hetherington & Kelly, 2002). The prevalence of divorce within the UK has dramatically increased in recent decades, with the estimated rate being 22% in 1972 and 42% in 2012 (Sands, Thompson, & Gaysina, 2017), increasing the potential of many individuals to be affected by parental divorce and, therefore, become susceptible to an increased risk of developing associated psychological problems (Amato, Kane, & James, 2011). Researchers have attempted to identify specific mediating factors associated with the effects of long-term divorce and mixed findings have been reported; either no effect (Martinez & Forgatch, 2002), negative effects (Hetherington, 1993; Amato et al., 2011), and sometimes positive effects (Booth & Amato, 2001; Hetherington & Kelly, 2002; Amato, 2001).

Two meta-analyses, conducted more than 20 years ago (Reid & Crisafulli, 1990; Amato & Keith, 1991), found that individuals with divorced parents were more likely to experience negative psychological effects, such as depression and anxiety, than those whose

parental marriage remained intact. Sands et al. (2017) conducted a more recent meta-analysis to assess whether the increase in divorce prevalence, and decrease in its negative social stigma, has affected the association between parental divorce and psychological problems today. Such research builds on the work of Sigle-Rushton, Hobcraft, and Kiernan (2005), which claimed that few studies have examined whether the associations between parental divorce and psychological wellbeing of offspring have remained stable over time. Lacey, Bartley, Pikhart, Stafford, Cable, and Coleman (2012) claim that although divorce and separation have become more common than they once were, the impact they have on mental health has not decreased. Sands et al. (2017) reported that despite a change in societal attitudes towards divorce they did not detect any evidence to suggest that the association between parental divorce and psychological problems had decreased over the test period of 1980 to 2015, suggesting that the mediating mechanisms are less likely to be a result of societal influences.

The work of Sands et el. (2017) makes an important contribution towards clarifying the issue of whether societal attitudes relating to divorce are a significant mediating factor in the increased levels of anxiety and depression reported for offspring following marriage breakdown. An issue with this paper, however, arises in the reported finding that although evidence was detected to show an association between parental divorce and increased levels of depression for offspring, this was not detected for anxiety (Sands et al., 2017). The anxiety finding of the Sands et al. (2017) study conflicts with a number of other studies (e.g., Størksen, Røysamb, Holmen, & Tambs, 2006; Størksen et al., 2005; Fladmo & Hertlein, 2017) which found both depression and anxiety to be more prevalent in individuals who have divorced parents. Sands et al. (2017) did concede limitations in their meta-analysis of anxiety, reporting that from their initial identification of 2472 studies investigating anxiety their

selection process selected only four studies to review: Higgins et al., 2003; Hovens et al., 2010; Richardson and McCrabe, 2001; and Short, 2002. Of these, the first two do not have a specific focus on the analysis of factors relating to parental divorce, but to childhood maltreatment and trauma (Higgins et al., 2003; Hovens et al., 2010) and are, therefore, unreliable. The second two studies do consider the effects of parental support on children and both report significant increases in anxiety for offspring whose parents divorced (Richardson & McCrabe, 2001; Short 2002). Therefore, Sand et al.'s (2017) reported finding that anxiety is not found to be at higher levels in offspring from divorced parents does not appear to be reliable.

Although research presented above presents much evidence to support claims that levels of anxiety and depression are more likely to occur in offspring of parentally divorced families, there is also evidence to suggest that offspring can have positive effects to wellbeing following parental divorce (Booth & Amato, 2001). This finding was supported by Hetherington and Kelly (2002) who detected similar effects within the forty-year Virginia Longitudinal Study (VLS), which observed examples of self-reported positive effects in participants. Both studies reported positive effects for those who had been in high conflict households prior to divorce, where parental arguments and, at times, physical abuse were witnessed by the children (Booth & Amato, 2001; Hetherington & Kelly, 2002). In households where children did not directly witness conflict there was still evidence that the impact of conflict on the psychological wellbeing of parents, despite 'being behind closed doors', resulted in a reduction in the quality of parental support provided for the children (Booth & Amato, 2001; Hetherington & Kelly, 2002). Following divorce, the reduction in parental conflict, which often occurred over time, was deemed responsible for bringing about the positive effects for the children (Booth & Amato, 2001; Hetherington & Kelly, 2002). In

these instances, although parental divorce can be deemed to have brought about positive effects for offspring, there appears to only be a positive effect for those who are already suffering (Booth & Amato, 2001). The gain may be regarded as a return to a more societally normal level of well-being, rather than a positive effect beyond the normal level of a given population (Booth & Amato, 2001).

In summary, the reviewed literature has not detected a change in the effects of parental divorce on the psychological well-being of offspring over the past 20 years, despite a larger number of people being affected as the prevalence of divorce within the UK has increased (Lacey et al., 2012). Higher prevalence of divorce has resulted in a shift in societal attitudes towards marital separation in a positive regard (Sands et al., 2017).

2.2 Anxiety

Anxiety disorders have been identified as one of the more common psychiatric conditions in adolescence and adulthood, though understanding of the developmental pathways that lead to these disorders is currently limited (Chorpita, & Barlow, 1998; Esbjørn, Bender, Reinholdt-Dunne, Munck, & Ollendick, 2012; Nolte, Guiney, Fonagy, Mayes, & Luyten, 2011). Anxiety fulfils an important role in human development, as is serves as a defence mechanism during infancy when a child encounters a new stimulus; such as a spider, heights, or loud noises, which alerts the child to potential danger and triggers a biological 'fight or flight' response to enable the infant to cope in this situation (Muris, Meesters, Merckelbach, Sermon, & Zwakhalen, 1998). Anxiety becomes a disorder at the point when normal fears and worries persist and are experienced to an excessive level, which affects normal daily functioning in a negative way (Eley, Bolton, O'Connor, Perrin, Smith, & Plomin, 2003).

The processes that mediate the relationship between parental divorce and psychological problems, such as anxiety are still elusive (Schaan & Vögele, 2016). Researchers that have attempted to identify such factors have detected many mechanisms that appear to play a role in the process though are unclear how they specifically feature (Fladmo & Hertlein, 2017). These factors include genetically based vulnerabilities, such as temperament (e.g., Kagan, Reznick, & Snidman, 1988), negative learning experiences (Murray, Creswell, & Cooper, 2009), family functioning (Hetherington & Kelly, 2002), and insecure parent-child attachment relationships (Colonnesi, Draijer, Stams, Van der Bruggen, Bögels, & Noom, 2011). To add to the complexity of the mechanisms involved in parental divorce, no two divorces occur in the same way, which creates an even larger pool of external variables to consider when investigating (Hetherington & Kelly, 2002). As presented above, there is evidence to indicate that divorce often creates a reduction in socio-economic status for everyone involved, which can lead to both financial and educational change, especially for children (Fladmo & Hertlein, 2017). Hetherington (1993) reported that the VLS detected an increase in anxiety during and in the months following the divorce for most participants. This was attributed to the uncertainty of the next steps of how changes in family setup would occur, as life events threaten the security of both the financial and emotional aspects of the family (Hetherington, 1993). For some individuals, this can result in emotional trauma, which is broadly characterised by a combination of feeling both intense anxiety and not being in control of issues experienced in daily life (Swart, 2014). This is typically a condition diagnosed after an individual perceives, or experiences, a life-threatening event, which, to many children, parental divorce constitutes (Cavarovic-Gabor, 2008).

2.3 Depression

Maughan, Collishaw, and Stringaris (2013, p.35), define depression as: "persistent and pervasive sadness, along with a loss of interest or pleasure in activities". Throughout the life course, depression is comorbid with other psychiatric disorders, the most prominent being anxiety (Ross & Wynne, 2010). Although much research considers both depression and anxiety within the same study (e.g., Størksen et al., 2006; Richardson & McCrabe, 2001; Sands et al., 2017), Wauterickx, Gouwy, and Bracke (2006) considered divorce with a specific focus on depression. They report that there has been much research focused on the short-term effects of parental divorce on offspring, which shows negative effects to subside over the years (e.g., Louis & Zhao, 2002; Brown & Whiteside, 2008; Pacchierotti, Bossini, Castrogiovanni, Pieraccini, Soreca, & Castrogiovanni, 2002), but emphasises the importance of deepening understanding of the negative long-term effects of parental divorce. This is because long-term effects, such as depression, disrupt individuals for many years and may increase the likelihood that such experiences are passed on to their own offspring, affecting their mental wellbeing and increasing the chance of their own marriages being unsuccessful (Bhrolchain, 2001). Wauterickx et al. (2006) identify that this proposed mechanism of the intergenerational genetic transfer of personality traits or learned behaviours remains one of the main credible explanations to explain higher levels of depression in divorced families. This suggests that a different developmental pathway has occurred in offspring either prior to, or during, early childhood through the process of modelled parental behaviours as a result of clinical depression (Bhrolchain, 2001). There has, however, been little research that has attempted to specifically focus on exploring the significance of this proposed association (Wauterickx et al., 2006). Similar suggestions have been made regarding the possible intergenerational transfer of genetic and learned behavioural traits relating to anxiety, as a result of parental divorce, for

which there is presently little research available (Cyr, Euser, Bakermans-Kranenburg, & van IJzendoorn, 2010).

A second prominent mechanism reported in the literature, similar to the findings of the VLS (Hetherington, 1993), is an association between socio-economic factors and consequent feelings of persistent helplessness, which can lead to depression (Wauterickx et al. 2006). Again, although there are studies that report that depression subsides as time passes for all parties involved in divorce (e.g., Brown & Whiteside, 2008; Mikulincer, & Shaver, 2004), there are reports of significantly higher levels of depression and anxiety in offspring, whose parents have divorced, years after the initial divorce has occurred (e.g., Sacks et al., 2014; Amato et al., 2011; Hetherington, 1993). This suggests that a separate developmental pathway has perhaps occurred in these individuals, resulting in a higher predisposition to depression and anxiety in adulthood (Hetherington & Kelly, 2002). The proposed change in developmental pathway caused by socio-economic factors (Amato et al., 2011; Hetherington & Kelly, 2002) has a similar theoretical underpinning to that of development being altered by the intergenerational transfer of genetic and learned behavioural traits (Wauterickx et al., 2006; Cyr et al., 2010) in that they both predispose the offspring to higher likelihood of experiencing depression and anxiety during adulthood. The difference lies in the proposed time in which this occurs, as intergenerational transfer of traits occurs in the early stages of the life of offspring, whereas the socio-economic change relating to divorce occurs at the time of divorce (Wauterickx et al., 2006).

The final area of research into determining the mechanisms involved in the relationship between parental divorce and depression and anxiety is a substantial one (Wauterickx et al. 2006) and focusses on the relationships offspring have formed with parents and caregivers and how these relationships change as a result of family separation. As with the ‘intergenerational

transfer of traits' and 'socio-economic' mechanisms proposed above, a change in relational dynamics between caregivers may result in a new developmental pathway occurring in offspring (Mikulincer & Shaver, 2007). In relation to the other proposed mechanisms, the 'relationship to parents and caregivers' mechanism is similar to the socio-economic proposal in that it is thought to occur around the time of the divorce, whereas the intergenerational transfer mechanism is thought to occur much earlier in a child's development. The area of study exploring the relationship to parents and caregivers is referred to as the study of 'attachment' (Bowlby, 1982) and is a primary focus of this study in the detection of mechanisms associated with parental divorce and anxiety and depression.

2.4 Attachment

Bowlby's (1982) Attachment Theory has been increasingly used within the research literature as an explanatory model for psychopathology, including anxiety and depression disorders (e.g., Bifulco, Kwon, Jacobs, Moran, Bunn, & Beer, 2006; Cassidy, Lichtenstein-Phelps, Sibrava, Thomas, & Borkovec, 2009). It has been suggested that offspring of divorced parents experience anxiety and depression as a result of long-term insecure attachments to parents and to future partners in intimate relationships (Ben-Ami & Baker, 2012; Brown & Whiteside, 2008). Colonnesi et al. (2011), define attachment as, "a biologically based system that promotes the proximity between child and caregiver and serves the evolutionary purpose of protecting the child from danger" (p.631). Although the attachment system is most evident during childhood, Bowlby (1982) suggested that it is active throughout the entire life span and manifests in thoughts and behaviours related to seeking proximity to attachment figures in times of perceived need or threat (Mikulincer & Shaver, 2007). Herein lies the theoretical association between attachment and anxiety and depression, as disruption to the developmental pathways linked to the attachment system may lead to individuals being ill-

equipped to deal with perceived threats and needs over the course of the life span (Murray, Creswell, & Cooper, 2009). Parental divorce may be the disruptive mechanism that changes an individual's attachment system, sometimes quite dramatically if contact with a parent stops completely, which sets that person on a different developmental pathway (Brumariu & Kerns, 2010). Such disruption may impact upon the way a person constructs emotional attachments with parents as a child and, later, romantic partners as they mature (Wearden, Peters, Berry, Barrrowclough, & Liversidge, 2008).

One of the techniques used to measure attachment is through the Experiences in Close Relationships (ECR) questionnaire (Brennan, Clark, & Shaver, 1998), which calculates an attachment style based on two dimensions. The first dimension, anxiety-related attachment, measures the degree to which a person worries that a partner will not be available for support in times of need (Mikulincer & Shaver, 2007). The second, avoidance-related attachment, records the degree to which a person strives for independence and emotional distance from partners as a means of self-protection (Mikulincer & Shaver, 2007). When calculated, an attachment style is identified into one of four categories: Secure (secure), preoccupied (insecure), dismissing (insecure), and fearful-avoidant (insecure). A Secure attachment style has both a low anxiety and avoidance-related attachment score and has consistently been linked, with the support of research evidence, to better mental health (Bifulco et al., 2006), likely because these individuals feel worthy of the concern, care and affection of others (Eng, Heimberg, Schneier, Liebowitz, & Hart, 2001). The remaining three attachment styles are categorised as 'Insecure' styles, as they have either a high anxiety and low avoidance-related attachment score (preoccupied), high avoidance and low anxiety-related attachment score (dismissing), or both high anxiety and avoidance-related attachment scores (fearful-avoidant) (Brennan et al., 1998). There is consistent evidence linking the three insecure attachment

types with a higher likelihood of experiencing psychopathology such as depression and anxiety (e.g., Wearden et al., 2008; Picardi et al., 2013; Nolte et al., 2011), as these individuals are likely to have negative working models of themselves and worry about abandonment (preoccupied), deny their own emotional needs for attachment (dismissing), or experience a combination of both feelings (fearful-avoidant) (Eng et al., 2001). However, findings have been inconsistent in linking specific insecure attachment styles to specific psychological disorders (Bifulco et al., 2006).

2.5 Self-Esteem

Global self-esteem may be defined as "a positive or negative attitude toward a particular object, namely, the self" (Rosenberg, 1965, p.30). Huang (2010) proposed that global self-esteem changes as people encounter changes in their lives, increasing when people succeed in overcoming challenges both emotionally and environmentally, and decreasing in negative situations such as following a parental divorce (Størksen et al., 2005; Hetherington & Kelly, 2002). Crocker and Park (2004) argue that people are not merely passive victims of events over which they have no control, as they actively pursue self-esteem by attempting to validate their abilities and qualities in the domains in which self-worth is invested. Therefore, if offspring have already invested self-worth into a relationship with a romantic partner and are gaining a sense of validation for their qualities and abilities, the effect of parents divorcing is likely to be less impactful on their self-esteem (Birkeland, Melkevik, Holsen, & Wold, 2012). Conversely, if offspring have invested self-worth into being a member of the intact family, they may feel unsuccessful in validating their abilities and qualities if the family were to divorce and their self-esteem is likely to be affected in a more dramatic way (Bastaits, Ponnet, & Mortelmans, 2012). This is consistent with the suggestion of Hetherington and Kelly (2002) that offspring between the ages of 11 and 15 find parental divorce the most

difficult. This is because 11-15 is the developmental stage where adolescents often seek to increase their independence and define their own identity, but this process is made more difficult when the self-esteem gained from their stable role within the intact family is suddenly and dramatically changed (Hetherington & Kelly, 2002). If individuals do not receive the support they need, thereby disabling them to confront developmental challenges in an appropriate way, these individuals may experience a trajectory of decreased self-esteem into adulthood (Huang, 2010). Evidence has been presented to also show that secure attachments to a significant other (e.g., parent, sibling, or romantic partner) can reduce the impact of parental divorce on offspring during this developmental stage (Kerns & Brumariu, 2014).

Birkeland et al. (2012) suggest that true global self-esteem develops as a result of the satisfaction of three fundamental human needs: autonomy, competence, and relatedness. Satisfaction of these needs is dependent on a supportive environment that provides appropriate opportunities and security to develop confidence in each of these areas (Birkeland et al., 2012). The importance of support in achieving and maintaining high self-esteem is echoed by the findings of Zakeri and Karimpour (2011), who reported that high levels of support and high levels of control were associated with higher self-esteem among adolescents. Other research has reported the same result for support, but not for control (e.g., Plunkett, Williams, Schock, & Sands, 2007; Siffert, Schwarz, & Stutz, 2012).

Of the three mechanisms proposed above (intergenerational transfer of traits, socio-economic and attachment) to explain the occurrence of higher levels of anxiety and depression in the long-term following parental divorce, this study focussed on the area of attachment. This is because a deeper understanding of how change in the developmental pathway that is thought to occur around the time of parental divorce may increase the effectiveness of knowledge and available interventions that may strengthen the support system for all parties

involved in the divorce, especially offspring. Such intervention would assist with the development of coping strategies to support individuals with some of the issues caused by socio-economic change, which is inevitable following most divorces (Hetherington & Kelly, 2002). Similarly, education and intervention around the time of divorce may have an impact on the behaviours that follow divorce, which may reduce the intergenerational passing of negative behavioural traits deemed harmful to offspring's development, such as not providing appropriate levels of support (Wauterickx et al., 2006). Disruption to an offspring's internal model of attachment is also likely to impact on self-esteem for offspring, which is more likely to hold greater significance for those within the 11-15 age range (Hetherington & Kelly, 2002). This study looked specifically at the association the effects of long-term divorce has with the psychological conditions of anxiety and depression. Attachment to a romantic partner, mother, and father and self-esteem were selected as independent variables. The dependent variables were anxiety and depression. This dissertation hypothesised that:

- Participants whose parents are divorced will report higher levels of anxiety than those whose parents' marriage remains intact.
- Participants whose parents are divorced will report higher levels of depression than those whose parents' marriage remains intact.
- Participants whose parents are divorced will report higher levels of anxious and avoidant attachment scores than those whose parents' marriage remains intact.
- Participants whose parents are divorced will report lower levels of self-esteem than those whose parents' marriage remains intact.
- Higher anxious and avoidant-related attachment scores will predict anxiety and depression for those with divorced parents.

- Lower self-esteem scores will predict anxiety and depression for those with divorced parents.

3. Method

3.1 Participants

Participants, aged 18 years and over, were recruited through the University of Chester's Research Participation System (RPS) page and over the social media platforms of: Facebook, Twitter, Instagram and Snapchat. The sample of 329 participants was made up of 137 with divorced parents and 190 whose families were still intact (see Table 1). The age range was 18 – 74 years ($M = 37.56$, $SD = 10.44$). Participation in the experiment was voluntary and informed consent was given. The research gained ethical approval by the Ethics Committee of the Department of Psychology at the University of Chester and complied with the ethical code of conduct of the British Psychological Society (see Appendix A).

Table 1

Demographic data for divorced and intact families

	Divorced ($N = 137$)	Intact ($N = 190$)
Gender ($N = 329$)		
Male	27	55
Female	110	135
Relationship Status ($N = 324$)		
In a Relationship	114	163
Not in Relationship	21	26
Marriage Status ($N = 325$)		
Married	64	104
Not married	73	84

3.2 Measures

Participants completed a questionnaire (see Appendix C) which, firstly, asked demographic questions such as gender, age, relationship status, marital status, and whether parents are divorced. The following questionnaires were then used to assess anxiety, depression, attachment style to romantic partner, attachment style to mother, attachment style to father, and self-esteem:

The Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983) is a 14-item, self-report instrument used to assess anxiety and depression. Participants select responses from a choice of four options that indicates how they have been feeling over the last week. Some of the statements included: "I get sudden feelings of panic" and "I can enjoy a good book, radio or tv programme". Participants would answer either "very often indeed, quite often, not very often at all, or not at all". Depression and anxiety scores are then calculated separately and compared against the following categories: 0-7 for 'normal', 8-10 for 'borderline', and 11+ for a 'clinical condition'. HADS (Zigmond & Snaith, 1983) has been found to perform well in assessing symptom severity for anxiety and depression within the general population (Bjelland, Dahl, Haug, & Neckelmannd, 2002). The Cronbach's alpha was assessed as 0.90.

Experiences in Close Relationships Scale (ECR, Brennan et al., 1998): a 36-item scale that is rated on a 7-point Likert scale (1 for 'Disagree strongly' and 7 for 'Agree strongly') as participants considered their relationship to a romantic partner. The items assess the two attachment dimensions of 'anxiety-related attachment' and 'avoidance-related attachment', which is the most empirically supported and theoretically accepted approach currently used for understanding attachment dynamics (Mikulincer & Shaver, 2007). Attachment-related avoidance questions measure how participants rate feelings of closeness, and attachment-

related anxiety items rate how someone feels about abandonment within a relationship (Brennan et al., 1998). Some of the statements included were: ‘‘I prefer not to show a partner how I feel deep down’’ and ‘‘I worry about being abandoned’’. In the current study the Cronbach’s α was assessed as 0.95.

Experiences in Close Relationships Scale - Relationship Structures (ECR-RS, Fraley, Niedenthal, Marks, Brumbaugh & Vicary, 2006): This shortened, revised version of the ECR (Brennan, Clark, & Shaver, 1998) uses 9-items to assess attachment style. This scale can be repeated with regards to mother, father and closest sibling and shows good indications of reliability and validity (Fraley, Vicary, Brumbaugh & Roisman, 2011). The Cronbach’s α was assessed as 0.92 and 0.93 for relationships to mother and father, respectively.

Rosenberg Self-Esteem Scale (Rosenberg, 1965): One of the most widely used measures to assess global self-esteem is the Rosenberg Self-Esteem Scale (Fladmo & Hertlein, 2017). It is a 10-item, 4-point (strongly agree, agree, disagree, and strongly disagree) self-report scale that measures the individual’s overall feelings of self-acceptance and self-worth. Validity and reliability has been shown to be effective across a variety of different scale groups and ages (Francis & Wilcox, 1995). The Cronbach’s α was assessed as 0.91.

3.3 Procedure

As part of an umbrella project that set out to assess the role that a variety of independent variables play, highlighted within the research literature, in mediating negative psychological effects following parental divorce, data was collected alongside two other researchers. Ethical approval for the study was sought and approved by the Ethics Committee of the Department of Psychology at the University of Chester and complied with the ethical code of conduct of the British Psychological Society. Data was collected by questionnaire, which was completed by participants aged 18 and over, recruited online through the

University of Chester's Research Participation System (RPS) page, for which they were awarded three research credits, and from social media (Facebook, Twitter, and Instagram). Participants voluntarily responded to an advertisement which stated that the research was exploring the effects of parental divorce and that adults whose parents with either divorced or still married were welcome to take part (see Appendix B). A link below the advertisement took participants to the information sheet informing them of further details of the study, including the independent variables assessed and an explanation that their participation is confidential and voluntary, and if they feel uncomfortable at any point during the questionnaire that they can move to the next question or withdraw from the study (see Appendix C). The information sheet, along with the questionnaire and debrief sheet, were created using the Online Surveys website (Online surveys, 2018), which meant that every participant received the questionnaire presented in the same way and data was submitted electronically. Following the information sheet participants were presented with the questionnaire and guided through its completion with instructions as each new section was reached (see Appendix C). Consent was assumed upon submission of the questionnaire, which was clearly stated in the information sheet. Following submission of the questionnaire, participants were presented with a debrief sheet, which thanked participants for their contribution and gave contact information of the researchers should any further information be required in future. Contact details for support agencies were also presented, in case participants experienced any feelings of upset following participation in the study (see Appendix C). Of the 440 Participants that took part in the study, 107 participants were firstly omitted from the study group, as they were collected from outside of the UK as part of a nationality comparison aspect of the project, which may have had a bearing on the accuracy of the effects of parental divorce on offspring within the UK. Three further questionnaires were

omitted due to multiple responses submitted on their survey, which left the intended response unclear, as well as one ECR section of another questionnaire for the same reason. The questionnaire was available to complete for a period of six weeks and when that period had elapsed the questionnaire was closed to participants and data was transferred to SPSS for analysis.

3.4 Analysis and Design

A cross-sectional, between-subjects, survey design was used. Parental Divorce (parental-divorce and parental-intact families), attachment (anxiety-related and avoidance-related) and self-esteem were selected as independent variables and the dependent variables were anxiety and depression. Due to the sample size of 329, a Kolmogorov-Smirnov normality test was performed on the data prior to the calculation of inferential statistics which, detected a partial skew to the left in the dataset (see Appendix D), but normality was confirmed. The dataset was then split to isolate the parental divorce group to carry out specific further analysis. Descriptive statistics and t-tests were then conducted to assess the differences between participants from parental-divorce and parental-intact families (see Table 2). A Pearson correlational analysis was then carried out on the collected data (see Table 3). For parsimonious reasons only the significantly correlated variables were then carried forward to standard multiple regression, which was used to conduct an exploratory analysis of the data. Prior to standard multiple regression testing, normality was confirmed (see Appendix D). The alpha level was set at > 0.05.

4. Results

Of the 329 questionnaires completed in the study, Table 2 shows the number of responses that were successfully completed for each section of the questionnaire. Where omissions appear, it is as a result of the question not being completed in full or where multiple

answers had been submitted, which meant that a clear understanding of the intended response could not be obtained. Independent *t* tests were used to analyse the mean data between participants with divorced and intact parent marriages (see Table 2).

Table 2

Mean score (and SD) for each test condition

Characteristic	*N*	Divorced	*N*	Intact	Test statistic
Anxiety	136	8.84 (4.43)	186	7.76 (4.51)	t (320) = 2.13, p = 0.03
Depression	137	4.74 (3.28)	187	3.89 (3.13)	t (322) = 2.37, p = 0.02
Anxious Attach’	129	4.65 (1.78)	172	4.10 (1.70)	t (299) = 2.72, p = 0.01
Avoidance Attach’	131	4.05 (1.60)	176	3.68 (1.60)	t (305) = 2.04, p = 0.04
Mother Anxious	132	2.46 (1.61)	188	1.85 (1.23)	t (318) = 3.84, p < 0.01
Mother Avoidance	127	3.19 (1.45)	183	2.68 (1.22)	t (308) = 3.33, p < 0.01
Father Anxious	124	2.99 (1.84)	180	1.82 (1.13)	t (302) = 6.86, p < 0.01
Father Avoidance	125	4.06 (1.72)	177	3.03 (1.19)	t (300) = 6.13, p < 0.01
Self-Esteem	129	30.09 (5.68)	179	31.42 (5.64)	t (306) = -2.05, p = 0.04

Note: N = 329, total N (divorced parents) = 138, total N = (intact parents) 191.

Table 2 also shows participants with divorced parents were found to have significantly higher mean scores than those whose parents’ marriage was intact for both dependent variables of anxiety and depression. Although the depression scores for both groups were within the normal range, the anxiety score for the parental divorced group (8.84) was within the

borderline category for a clinical anxiety condition (Zigmond & Snaith, 1983), whereas the intact group scored within the normal range. The anxious and avoidance-related attachment scores to a romantic partner, mother and father were also found to be significantly higher for those with divorced parents than for those with intact parental marriage. Finally, self-esteem scores were reported to be significantly lower for the parental divorced group than those in the parental intact group of participants.

A Pearson correlation between each of the above variables within the group of those with divorced parents was conducted and results are presented in Table 3. Anxiety showed a large, negative relationship with self-esteem and a moderate, positive relationship with anxiety-related attachment towards a romantic partner. Depression, similarly, showed a large, negative relationship with self-esteem, as well as a moderate, positive relationship with anxiety-related attachment towards a father and romantic partner.

Table 3

Correlations between each test condition for adults with divorced parents

Variables	1	2	3	4	5	6	7	8	9
1. Anxiety	-								
2. Depression	.71***	-							
3. Rom'Anx	.44***	.38***	-						
4. Rom'Avoid	.09	.23*	.29**	-					
5. MotherAnx	.19**	.27***	.35***	.19*	-				
6. Moth'Avoid	.19*	.18*	.29***	.09	.69***	-			
7. FatherAnx	.27**	.34***	.38***	.23*	.35***	.16	-		
8. Fath'Avoid	.18*	.22*	.22*	.29**	.05	.05	.57***	-	
9. Self Est'm	-.58***	-.66***	-.54***	-.31***	-.28**	-.18	-.39***	-.29**	-

*p < .05. **p < .01. ***p < .001

Finally, romantic anxiety-related attachment, mother anxiety and avoidance-related attachment, father anxiety and avoidance-related attachment, and self-esteem dimensions were entered together in a standard multiple regression and were found to predict a significant amount of variance (32.1%, adjusted to 27.6%) in explaining anxiety symptomology ($F(6,91) = 7.17$, $p < .001$). Self-esteem ($\beta = -.43$, $p < .001$) was significant unique predictor, but romantic anxiety-related attachment ($\beta = .18$, $p < .088$), mother anxiety and avoidance-related attachment ($\beta = -.14$, $p = .314$, $\beta = .08$, $p = .529$, respectively), and father anxiety and avoidance-related attachment ($\beta = .14$, $p = .268$, $\beta = -.06$, $p = .596$, respectfully) were not.

A standard multiple regression was also conducted to consider depression symptomology ($F(7,85) = 8.77$, $p < .001$) in relation to the significant variables of: romantic anxiety and avoidance-related attachment, mother anxiety and avoidance-related attachment, father anxiety and avoidance-related attachment, and self-esteem dimensions and were found to predict a significant amount of variance (41.9%, adjusted to 37.2%). Self-esteem ($\beta = -.62$, $p < .001$) was a significant unique predictor, but romantic anxiety and avoidance-related attachment ($\beta = .03$, $p < .522$, $\beta = -.08$, $p = .351$, respectfully), mother anxious and avoidance-related attachment ($\beta = -.09$, $p = .936$, $\beta = .09$, $p = .432$, respectfully), and father anxiety and avoidance-related attachment ($\beta = .09$, $p = .458$, $\beta = .01$, $p = .929$, respectfully) were not. No further analyses were conducted.

5. Discussion

5.1 Findings

This study set out to identify whether the long-term effects of divorce on offspring has an association with the psychological conditions of anxiety and depression. Furthermore, we sought to investigate whether self-esteem and attachment to a romantic partner, mother or father were predictors of anxiety and depression following parental divorce. The results of our

study supported our first and second hypotheses, as they showed participants with divorced parents to have significantly higher anxiety and depression scores than participants whose parents' marriage remained intact (see Table 2). These findings are consistent with other studies presented in the research literature (e.g., Hetherington, 1993; Sirvanli-Ozen, 2005; Størksen et al., 2005; Washington & Hans, 2013; Andersen, 2014) and supports the proposal of Lacey et al. (2012) that the association between parental divorce and depression and anxiety has not diminished over time, despite changes in societal attitudes. Our results were also consistent with Sands et al.'s (2017) meta-analysis, confirming that the association between parental divorce and depression does not appear to have changed over the past 30 years, but conflicted with their finding which stated that anxiety may no longer share this association. Our study provides further supportive evidence that the reduction in anxiety's association with divorce in the Sands et al. (2017) study is an anomaly, due to methodological challenges, and that the association between anxiety and parental divorce is still prevalent in adults with divorced parents today.

Although studies have reported higher levels of anxiety and depression for those with divorced parents, depression and anxiety scores are not often discussed in detail (Fraley, Waller, & Brennan, 2000; McLeod, Wood, & Weisz, 2007). Both depression and anxiety score data were found to show a partial skew to the left during normality testing (see Appendix D) with depression scores showing a more prominent skew. This indicates that lower scores were recorded for the whole population of this study's participants than would be expected from the general population (Zigmond & Snaith, 1983). Given that scores for anxiety and depression were considered low for the test population, anxiety scores for the group with divorced parents still registered above the 'normal' range and into the 'borderline' category for having a clinical anxiety condition (Zigmond & Snaith, 1983). A possible explanation for

this is that the HADS (Zigmond & Snaith, 1983) questions used to measure depression and anxiety were completed at the end of the questionnaire (see Appendix C), which followed participants being asked to reflect on their childhoods and the relationships that they have had with their parents as they had grown up during the ECR (Brennan et al., 1998) section of the questionnaire. It has been suggested that participants with anxiety-related attachment may be more sensitive to experiences of rejection and abandonment, which may increase the likelihood of the recall of more negative attachment experiences (Mikulincer & Orbach, 1995). Therefore, for those with divorced parents this may have conjured memories of more difficult and anxious times, which may have initiated an anxious response for some, which may have been picked up by the HADS (Zigmond & Snaith, 1983) measuring tool and may explain the higher result (Cassidy et al., 2009). The depression scores, however, remained within the normal range for both groups and are likely to have been less affected by childhood reflection during the questionnaire, as depression questions relate to more routine behaviours that occur over a period of time (Maughan et al., 2013), such as 'wanting to get up in the morning' and 'finding happiness in daily activities' (Zigmond & Snaith, 1983). There was also feedback received via social media from a small number of participants who had accessed the study through this format and reported how the questionnaire had raised a lot of questions about the impact divorce had actually had on their adult life (Cassidy et al., 2009), which would further support this possible explanation.

Hypothesis three was also confirmed, as participants with divorced parents reported significantly higher scores for anxiety and avoidance-related attachment towards their mother, father and romantic partner (see Table 2). This finding is consistent with the findings of other research literature presented in this area of study (e.g., Bifulco et al., 2006; Brown & Whiteside, 2008; Colonnesi et al., 2011; Ben-Ami & Baker, 2012). Although all scores may

be deemed as registering in the low to moderate range (all mean scores rated 1-4 out of a possible 1-7), scores above three may be deemed to be in the insecure category, although more specific calculations are required for full confirmation in each case (Brennan et al., 1998; Fraley et al., 2006). Of the three 'key' people against which attachments were measured (romantic partner, mother and father), both the parental divorce and parental marriage intact groups presented the highest levels of anxiety and avoidance-related attachment scores for the relationship with a romantic partner. The highest attachment scores to a romantic partner overall were detected in the parental divorced group. These participants, therefore, had the highest degree of worry that a partner will not be available for support during times of need (Mikulincer & Shaver, 2007) and the highest desire to strive for independence and emotional distance from partners as a means of self-protection (Mikulincer & Shaver, 2007). Both anxiety and avoidance-related attachment scores may be deemed to register within the lower end of the insecure attachment category on both dimensions, which would suggest that this group's participants would have a higher likelihood of experiencing psychopathology such as anxiety and depression (Picardi et al., 2013). This finding also compliments the first two hypotheses of this study, as participants in the parental divorced group recorded the highest anxiety and depression scores.

Our fourth hypothesis that participants whose parents are divorced will report lower levels of self-esteem than those whose parents' marriage remains intact was also confirmed, which is consistent with the findings of Størksen et al. (2005), Birkeland et al. (2012) and Fladmo and Hertlein (2017). However, despite the significant difference between the two groups the scores were similar (see Table 2). The wide range of results that the Rosenberg Self-Esteem Scale (Rosenberg, 1965) permitted (between 10 and 40), found a difference of only 1.33 between the mean scores of the parental divorce and marriage intact groups.

Our fifth hypothesis that higher anxious and avoidant-related attachment scores will predict anxiety and depression for those with divorced parents was not confirmed. A relationship between anxiety and depression and avoidance-related attachment was not detected, which is in line with the work of Foster, Kernis, and Goldman (2007) (see Table 3). Although a moderate positive relationship was detected between both anxiety and depression and anxiety-related attachment to a romantic partner (see Table 3), anxiety-related attachment was not found to be a unique-predictor of anxiety. This is not consistent with the work of Picardi et al. (2013) and Wearden et al. (2008) who found a strong association between attachment and anxiety and depression. The difference between our findings and those of other researchers may be as a result of participants within our study presenting relatively secure attachment styles to key caregivers in their lives (romantic partner, father and mother), as they mostly reported scores between 1-4 (see Table 2). Where few participants are demonstrating insecure attachment styles within the research data the detection of attachment showing as a unique predictor of these insecure styles is unlikely. Further research is required in this area with a more accurate representation of the general population where insecure attachment levels are likely to be more prevalent (Washington & Hans, 2013).

The moderate positive relationship between anxiety and depression and anxiety-related attachment presented in our study (see Table 3) shows that Bowlby's (1982) attachment theory may play an explanatory role in the mechanisms that are affecting offspring of divorced parents following divorce. In addition, Table 2 shows how attachment develops and changes through the life course (Colonnesi et al., 2011), as anxiety-related attachment towards mothers and fathers was lower than towards a romantic partner. This may be a result of all participants within our study being adults and therefore, at this life stage, less dependent on parents for emotional support so whether support is forthcoming or not it is perhaps less likely to be a

source of anxiety for offspring (Brumariu & Kerns, 2010; Bifulco et al., 2006). The exception to this finding is the moderate positive relationship detected between anxiety-related attachment to a father and depression (see Table 3). This relationship shows partial consistency with Hetherington and Kelly's work (2002), which found that mothers were more likely to become the resident parent following divorce, which impacted on the reliability and consistency of an offspring's relationship with their father. This is a partial similarity, as Hetherington and Kelly (2002) also reported a similar finding for anxiety, which our study did not detect.

Our final hypothesis that lower self-esteem scores will predict anxiety and depression for those with divorced parents was confirmed, as self-esteem was found to be a unique predictor of both depression and anxiety, which is in line with the findings of Bastaits et al. (2012), Birkeland et al. (2012) and Fladmo and Hertlein (2017). Although this result is consistent with the work of other researchers, it is important to consider other evidence before an assumption is made that there is a causal link that following parental divorce low self-esteem, depression and anxiety are more likely to occur collectively (Birkeland et al., 2012). Orth, Robins, and Roberts (2008) found that low self-esteem predicted subsequent levels of depression in a general population regardless of divorce, but depression was not found to be a predictor of low self-esteem. Following this, Sowislo and Orth (2013) conducted a meta-analysis that supported the finding that low self-esteem predicted depression and also anxiety. In accordance with this research, it would therefore appear that parental divorce increases the chance of self-esteem being lowered for offspring, which, in turn, predicts a higher likelihood of subsequent levels of anxiety and depression. Alongside these mechanisms, research suggests that a reduction in parental support following divorce disables an individual's ability to confront developmental challenges in appropriate ways, which likely leads these individuals

to experience a trajectory of decreased self-esteem into adulthood (Hetherington & Kelly, 2002; Huang, 2010).

5.2 Implications

In confirming that parental divorce brings about a higher likelihood of both anxiety and depression for offspring, a clear window of opportunity is reinforced as an area where an increasing number of people can receive lifechanging support. In order to provide such beneficial support for those suffering following parental divorce, further work needs to be done to understand the intricacies of the many mechanisms identified as being involved in the process (Sands et al., 2017). Our study has identified that attachment theory (Bowlby, 1982) provides part of the picture of understanding as, despite a sample population with a predominantly secure attachment style, a moderate positive relationship was still detected, which links the anxiety-related attachment aspect of the theory. When considering the other aspect of the theory, the role of avoidance-related attachment, higher scores on this scale were suggested by Bowlby (1982) to denote an insecure attachment style where an individual would no longer seek the support of others. This style of attachment was then thought to place the individual in a more vulnerable position if they were to encounter difficulties in their life as little support would be available to them and, therefore, this attachment style was also categorised as insecure. Insecure attachment styles have been linked with higher levels of anxiety and depression (e.g., Wearden et al., 2008; Picardi et al., 2013), which was confirmed in our study regarding anxiety-related attachment, but not for avoidance-related attachment. Although Bowlby's (1982) theory of attachment was not specifically developed to further understanding of divorce, there is perhaps a case now to more specifically investigate the role of the avoidance-related attachment aspect of the theory when considering divorce, which may further increase understanding of the theory as a whole when it is considered in other contexts.

This could perhaps be achieved by investigating if there are similar levels of anxiety and depression experienced by people who have experienced parental divorce and measure as having an 'avoidant' or 'fearful-avoidant' attachment style. As scores were on the lower end of the ECR (Brennan et al., 1998; Fraley et al., 2006) scale for avoidance-related attachment within our study (2-4 of a possible 1-7), our results may be deemed limited in their scope of being able to detect a true relationship between 'avoidant' or 'fearful-avoidant' attachment styles and anxiety and depression. Conversely, if further research confirmed that avoidance-related styles of attachment do not relate to anxiety and depression there may be an opportunity to glean an insight into whether aspects of avoidance-related attachment styles could be utilised in interventions to better support offspring following parental divorce.

Although further research is required to confirm if the sequence of affects proposed in this study, namely: parental divorce increasing the likelihood of lower self-esteem then lower self-esteem increasing the likelihood of experiencing anxiety and depression, this sequence is consistent with the work of other researchers (e.g., Orth et al., 2008; Sowislo & Orth, 2013). If lower self-esteem is redirecting a developmental pathway within individuals, which is increasing the likelihood of them experiencing anxiety and depression, intervening to address levels of self-esteem at his time appear to be of high importance. Birkeland et al. (2012) identifies that a person's perception of their physical self plays an important role in the formulation of their self-esteem. Huang (2010) also highlights the importance of parental support at this time, as when support decreases self-esteem is more likely to decrease, especially during adolescence. This knowledge may be valuable to practitioners supporting parents and offspring following divorce, as the trajectory to poorer mental well-being in adulthood appears directly linked to this window immediately following the event. Fladmo and Hertlein (2017) also reported increases to an offspring's self-esteem when they achieved

in areas of musical, dramatic and sporting performance. This supports Huang (2010) and Størksen et al.'s (2005) contention that feelings of achievement can alleviate some of the negative feelings of helplessness disruption and loneliness that divorce can raise (Birkeland et al. (2012). Coupled with the physical element of some of the activities highlighted by Fladmo and Hertlein (2017), herein may contain accessible ways to indirectly build self-esteem by way of confidence in an individual's perception of their physical appearance (Birkeland et al. (2012).

5.3 Limitations

There are limitations of this study that may have impacted results. The sample of participants had a much larger female representation than that of males, which likely only presents part of the overall picture, based on the current evidence of how males and females experience and respond to parental divorce in different ways (Amato et al., 2011). As mentioned above, the way the questionnaire was constructed may have influenced the higher anxiety scores observed within the parental divorce group, as attachment questions in the ECR (Brennan et al., 1998; Fraley et al., 2006) before the HADS (Zigmond & Snaith, 1983) section may have increased past anxieties, which may have been unintentionally detected by the HADS measuring tool. A future recommendation would be that the HADS (Zigmond & Snaith, 1983) measure is used before the ECR (Brennan et al., 1998; Fraley et al., 2006) in future questionnaires. As the population for our study presented a skew towards low anxiety and depression scores in comparison with the general population (Zigmond & Snaith, 1983) and predominantly secure attachment styles, a replication of this study within a population who are experiencing anxiety and depression symptomology would provide a useful comparison, especially when seeking to identify unique predictors of these conditions.

6. Conclusion

In conclusion, our study set out to determine whether attachment and self-esteem were predictors of anxiety and depression in adults who have experienced parental divorce. We confirmed that low self-esteem is a predictor of anxiety and depression following divorce and that although parental divorce is likely to lower self-esteem that this affect is often unintentionally facilitated by a reduction in parental support following the event. Due to the low anxiety and avoidance-related attachment scores within our sample, attachment to important individuals was not detected to be a predictor of anxiety and depression, although a moderate, positive relationship was observed. This study confirmed that individuals with divorced parents experience higher levels of anxiety and depression, higher anxiety and avoidance-related attachment scores and lower levels of self-esteem. Replication of this study with a population that has higher levels of insecure attachment would further understanding towards more accurately confirming the role attachment plays in lowering self-esteem following parental divorce. Identifying self-esteem as a predictor of anxiety and depression following divorce, provides an opportunity for practitioners to utilise interventions that incorporate an opportunity for individuals to gain satisfaction from achieving in pursuits outside of the family environment and, where possible, achieving a positive perception of their physical selves, particularly for adolescents.

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Appendices

Appendix A – Application for Ethical Approval

Staff / Office Use Only ***DOPEC NUMBER:*** LON261017 ***Umbrella project DOPEC number (staff) Click here to enter text.***
APPLICANT SURNAME Click here to enter text.
APPLICANT: **UG ☐ PGT ☒ PGR ☐ Staff ☐**
***REVIEW PROCESS*:** **Accelerated ☐ Full ☒**
APPLICATION STATUS: **New application ☒ Major amendment ☐ Resubmission ☐**
APPLICATION FOR: **Dissertation ☒ Teaching ☐ Research & publication ☒**
ATTTENDENCE AT HEALTH & SAFETY BRIEFING*:** **Yes ☒ No ☐ N/A ☐** ***INCLUSION OF RISK ASSESSMENT FORM: **Yes ☐ No ☐ N/A ☒**

NOTES ON THE ROLE AND FUNCTION OF THE DEPARTMENT OF PSYCHOLOGY ETHICS COMMITTEE.

- *All decisions of the committee are based on the application form and reviewers comments ONLY. Forms should be as detailed and clear as possible. Verbal discussions are not considered as part of the application or review process.*
- *The review process strictly adheres to the University of Chester Research Governance Handbook and the BPS Code of Ethics.*
- *The decision of the committee is final. If you are a UG, PGT or PGR student you should discuss the decision of the committee with your supervisor. If you are a member of staff you may contact the chair of the committee for further clarification.*

Before completing the form researchers are expected to familiarise themselves with the regulatory codes and codes of conduct and ethics relevant to their areas of research, including those of relevant professional organisations and ensure that research which they propose is designed to comply with such codes.
Department of Psychology Ethical Approval for Research: Procedural Guidelines.
University of Chester Research Governance Handbook
http://ganymede2.chester.ac.uk/view.php?title_id=522471
BPS Code of Ethics
http://www.bps.org.uk/system/files/Public%20files/bps_code_of_ethics_2009.pdf
BPS Code of Human Research Ethics
http://www.bps.org.uk/sites/default/files/documents/code_of_human_research_ethics.pdf
BPS Guidelines for Internet-mediated Research
http://www.bps.org.uk/system/files/Public%20files/inf206-guidelines-for-internet-mediated-research.pdf
BPS Research Guidelines and Policy Documents
http://www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli

Any queries email: n.davies@chester.ac.uk or psychology_ethics@chester.ac.uk

CHECK LIST.
Please complete the form below indicating attached materials. Prior to submission supervisors must confirm that they have reviewed the application by completing the supervisors column.

Notes: Students to indicate where information is found, supervisor to confirm by ticking green column	**Supervisor confirmation**	**Information. sheet**	**Letter**	**Email**	**Email info. page**	**Consent Form**	**PowerPoint**	**N/A**
Brief details about the purpose of the study	☒	☒	☐	☐	☐	☐	☐	☐
Contact details for further information	☒	☒	☐	☐	☐	☐	☐	☐
Explanation of how and why participant has been chosen	☒	☒	☐	☐	☐	☐	☐	☐
Notification that materials/interviews are not diagnostic tools/therapy or used for staff review/development purposes	☒	☒	☐	☐	☐	☐	☐	☐
Explanation participation is voluntary	☒	☒	☐	☐	☐	☐	☐	☐
Details of any incentives or compensation	☒	☒	☐	☐	☐	☐	☐	☐
Details of how consent will be obtained	☒	☒	☐	☐	☐	☐	☐	☐
If research is observational, consent to being observed	☒	☐	☐	☐	☐	☐	☐	☒
Details of procedure so participants are informed about what to expect	☒	☒	☐	☐	☐	☐	☐	☐
Details of time commitments expected	☒	☒	☐	☐	☐	☐	☐	☐
Details of any stimuli used	☒	☐	☐	☐	☐	☐	☐	☒
Explanation of right to withdraw and right to withdraw procedure	☒	☒	☐	☐	☐	☐	☐	☐
Option for omitting questions participant does not wish to answer	☒	☒	☐	☐	☐	☐	☐	☐
Procedure regarding partially completed questionnaires or interviews	☒	☒	☐	☐	☐	☐	☐	☐
With interviews, information regarding time limit for withdrawal	☒	☐	☐	☐	☐	☐	☐	☒
Details of any advantages and benefits of taking part	☒	☒	☐	☐	☐	☐	☐	☐
Details of any disadvantages and risks of taking part	☒	☒	☐	☐	☐	☐	☐	☐
Information that data will be treated with full confidentiality and that, if published, those data will not be identifiable as theirs	☒	☒	☐	☐	☐	☐	☐	☐
Debriefing details	☒	☒	☐	☐	☐	☐	☐	☐
Dissemination information	☒	☒	☐	☐	☐	☐	☐	☐
Further information (relevant literature; support networks etc)	☒	☒	☐	☐	☐	☐	☐	☐
Supervisor Signature: L.P. O'Neill Date :08/03/2018								

University of Chester

DEPARTMENT OF PSYCHOLOGY APPLICATION TO DEPARTMENTAL ETHICS COMMITTEE

WHEN COMPLETING THE FORM PLEASE REFER TO THE DOP ETHICS PROCEDURAL GUIDELINES HANDBOOK.
UG AND PGT STUDENTS CAN ACCESS A COPY ON THEIR RELEVANT MOODLE PAGE.
PGR AND STAFF SHOULD CONTACT n.davies@chester.ac.uk or psychology_ethics@chester.ac.uk

1. Working title of the study

Notes: The title should be a single sentence

The long-term effects of parental divorce on attachment styles, self-esteem, and anxiety.

2. Applicant name and contact details

Notes: The primary applicant is the name of the person who has overall responsibility for the study. Include their appointment or position held and their qualifications. For studies where students and/or research assistants will undertake the research, the primary applicant is the student (UG, PGT, PGR) and supervisor is the co-applicant.

3. Co-applicants

Notes: List the names of all researchers involved in the study. Include their appointment or position held and their qualifications

4. Start and end dates of the study

Notes: The title should be a single sentence

February 2018 – October 2018

5. Is this project subject to external funding?

Notes: Please provide details of the funding body, grant application and PI.

No external funding.

6. Briefly describe the purpose and rational of the research

Notes: (Maximum 300 words). In writing the rationale make sure that the research proposed is grounded in relevant literature, and the hypotheses emerge from recent research and are logically structured.
If this application is for a PGR/Staff funded project please attach any detailed research proposals as appropriate.

There is a large body of research evidence (e.g. Sirvanli-Ozen, 2005; Amato, Kane, & James, 2011; Andersen, 2014; Størksen, Roysamb, Moum, & Tambs, 2005) which shows the effects of parental divorce to be associated with behavioural, academic, and psychological problems, including anxiety. Researchers have attempted to identify specific mediating factors associated with long-term effects that divorce has on children and received mixed findings; with reports showing either no effect (Martinez & Forgatch, 2002) , negative effects (Washington & Hans, 2013), and sometimes positive effects (Booth & Amato, 2001; Amato, 2001).

Further research is required to identify and understand mediating factors associated with long-term divorce to enable early detection and support to be offered to those at risk of developing problematic psychological conditions. A deeper understanding of the factors associated with positive effects of divorce is also important, as the key to supporting children from divorced families may lie herein (Mustonen, Huurre, Kiviruusu, Haukkala, & Aro, 2011).

Bowlby's (1982) Attachment Theory has been increasingly used within the research literature as an explanatory model for psychopathology, including anxiety disorders (e.g. Bifulco et al., 2006). It has been suggested that children of divorced parents experience anxiety as a result of long-term insecure attachments to parents and to future partners in intimate relationships (Ben-Ami and Baker, 2012; Brown & Whiteside, 2008).

Global self-esteem may be defined as positive or negative attitude towards the self (Rosenberg, 1965). Negative effects to self-esteem have been observed in children and adolescents following divorce (Størksen et al., 2005; Baker, 2007; Lau, 2007), which has been suggested to be a result of the strain that divorce puts on children's relationships with their parents (Twenge & Campbell, 2001).

This dissertation hypothesises that:

- Participants whose parents are divorced will report higher levels of anxiety than those whose parents remain intact.
- Participants whose parents are divorced will report higher levels of insecure attachment styles than those whose parents remain intact.
- Participants whose parents are divorced will report higher levels of anxiety than those whose parents remain intact.
- Attachment style will act as a mediator between those whose parents have divorced and anxiety.
- Self-esteem will act as a mediator between those whose parents have divorced and anxiety.

7a. Describe the methods and procedures of the study

Notes: (Maximum 500 words) Attach any relevant material (questionnaires, supporting information etc.) as appendices and summarise them briefly here (e.g. Cognitive Failures Questionnaire: a standardised self-report measure on the frequency of everyday cognitive slips). Do not merely list the names of measures and/or their acronyms. Include information about any interventions, interview schedules, duration, order and frequency of assessments. It should be clear exactly what will happen to participants. If this is a media based study describe and list materials include links and sampling procedure.

As part of an umbrella project, of which data collection will be conducted alongside two other researchers, a questionnaire will be directed at people over 18 years of age. Participants will be recruited online through the RPS page, if they are students at the University of Chester, and over social media (Facebook, Twitter, Instagram and Snapchat) (see Appendix B). Below the advertisement will be a link which, when clicked, will take participants to the information sheet informing them of details of the study (see appendices 2 & 3). Upon clicking 'next', participants will be presented with the questionnaire (see Appendix C). Please note that consent will be assumed upon submission of the questionnaire, which is clearly stated in the information sheet. Participants will then complete the questionnaire. At the beginning of the questionnaire participants will be presented with demographic questions, before moving to the main body of the questionnaire, which consists of:

Relationship Assessment Scale (Hendrick, 1988): A 7-item scale designed to measure current relationship quality. Previous good indications of reliability and validity (Hendrick, Dicke & Hendrick, 1998).

Relationship Structures- Revised (Fraley, Niedenthal, Marks, Brumbaugh & Vicary, 2006): The same 9 items are repeated in order to assess attachment style with regards to mother, father and closest sibling. Previous good indications of reliability and validity (Fraley, Vicary, Brumbaugh & Roisman, 2011).

Experiences in Close Relationships (Brennan, Clark & Shaver, 1998): A 36-item scale indicating attachment styles to 'romantic' partner. Previous good indications of reliability and validity (Vogel & Wei, 2005).

Rosenberg Self-Esteem Scale (Rosenberg, 1965): A 10-item 4 point scale self-report, which measures global self-esteem. This is one of the most widely used measures to assess self-esteem and it has correlation coefficients of .86 to .90, with test – retest coefficients of .85 (over two weeks).

Hospital Anxiety and Depression Scale (HADS: Zigmond & Snaith, 1983): A 14-point, self-report scale, assessing both depression and anxious symptomatology, with scores on each scale from 0 -7 within the normal range, 8 – 10 indicating borderline clinical need and those scoring above 11 indicating clinical need. Its use has been validated in community settings (Snaith, 2003).

Once participants have completed and submitted the questionnaire, a debriefing sheet will be presented (See Appendix C). The questionnaire should take no longer than 30 minutes to complete. If any participants decide to withdraw early from the questionnaire, they will be advised to keep clicking the 'next' button to access the debrief sheet.
Descriptive statistics will be examined, then t-tests to assess differences between those from parental-divorce and parental-intact families. Thereafter, correlational analysis, hierarchical multiple regression, and mediation analysis (Hayes, 2013) will be carried out.

7b. Provide details of your contingency plan

Notes: Please briefly describe your contingency plan. (100 words)

If the number of completed questionnaires from participants is lower than expected, further ethical approval will be sought to present paper copies, which will be printed and given to potential participants within work and family settings. This will provide the opportunity to recruit participants who may be less comfortable in operating computer-related equipment to share their information. If this still yields insufficient participants then my supervisor will provide pre-existing data on a similar topic.

8. Provide details of the previous experience of the procedures by the person conducting the study.

Notes: Say who will be undertaking the procedures involved and what training and/or experience they have. If supervision is necessary, indicate who will provide it.

9. Describe the ethical issues raised by this study and discuss the measures taken to address them.

Notes: Describe any discomfort or inconvenience that participants may experience. Include information about procedures that for some people could be physically stressful or might impact on the safety of participants, e.g. interviews, probing questions, noise levels, visual stimuli, equipment; or that for some people could be psychologically stressful, e.g. mood induction procedures, tasks with high failure rate, please include your distress protocol. Discuss any issues of anonymity and confidentiality as they relate to your study, refer to ethics handbook and guidance notes at the end of the form. If animal based include ethical issues relating to observation.

The study is not designed to cause distress; however, there is a small chance that some participants may find questions regarding their parental relationship status to be uncomfortable. Consequently, participants are advised that they are free to not answer questions that they do not wish to. Participants are free to withdraw from the study at any time during completion by exiting the online page, however, due to anonymity, once submitted this will no longer be an option and, in both instances, they will be directed to the debrief sheet. For participants going through a parental divorce currently the risks of harm may be higher, therefore in the information sheet it states that participants currently undergoing a parental divorce are advised not take part in the study. If a participant becomes distressed during or after the completion of the study for any reason they will be provided with contact details for helplines and guidance on their information sheet and debriefing form. No disclosure will occur during this study, neither probing questions nor stimuli are present. No personal identifiable information will be obtained about participants; therefore, all participants will remain anonymous throughout the entire study. Confidentiality will be maintained throughout.

10. Describe the participants of the study.

Notes: Describe the groups of participants that will be recruited and the principal eligibility criteria and ineligibility criteria. Make clear how many participants you plan to recruit into the study in total.

We aim to recruit a minimum of 400 male and female participants, ideally approximately half from parental-divorced families and half from intact families. All participants will be over the age of 18 years, so the results will be able to show the long-term effects into adulthood.

11. Describe the participant recruitment procedures for the study.

Notes: Gives details of how potential participants will be identified or recruited, please list any social media platforms that you will use and the message. Include all other advertising materials (posters, emails, letters,

verbal script etc.) as appendices and refer to them as appropriate. Describe any screening examinations. If it serves to explain the procedures better, include as an appendix a flow chart and refer to it.

Participants will be recruited online through the Research Participation System (RPS) and social media (Facebook, Twitter, Instagram, and Snapchat) following the Ethics Guidelines for Recruiting via Social Media (See Appendix 1). Participants will be advised that they must be at least 18 years of age, as it is the long-terms effects of parental divorce that this study seeks to examine. One member of the research team will be collecting data using face-to-face methods and using hard copies, for which separate ethical approval is being sought.

12. Describe the procedures to obtain informed consent

*Notes: Describe when consent will be obtained. If consent is from **adult participants**, give details of who will take consent and how it will be done. If you plan to seek informed consent from **vulnerable groups** (e.g. people with learning difficulties, victims of crime), say how you will ensure that consent is voluntary and fully informed.*
*If you are recruiting **children or young adults** (aged under 18 years) specify the age-range of participants and describe the arrangements for seeking informed consent from a person with parental responsibility. If you intend to provide children under 16 with information about the study and seek agreement, outline how this process will vary according to their age and level of understanding.*
How long will you allow potential participants to decide whether or not to take part? What arrangements have been made for people who might not adequately understand verbal explanations or written information given in English, or who have special communication needs?
If you are not obtaining consent, explain why not.

All participants will at least 18 years of age. All participants will be required to give informed consent before completion, after being given the information sheet. As the data will be collected online through RSP and social media (Facebook, Twitter, Instagram and Snapchat) participants are voluntarily taking part in the study. Therefore, completion and submission of the questionnaire will be taken as informed consent. This will be explained in the information sheet (See Appendix 2 and 3) alongside their rights to withdraw from the study before or during completion by exiting the site. After completion, participants cannot withdraw or request their data to be removed as, due to the anonymous responses, it will be impossible to identify which data belongs to them. There is no time limit on how long someone chooses whether or not to participate. Participants who might not adequately understand verbal explanations or written information given in English, or who have special communication needs are advised to contact the research time through the contact details provided to request alternative arrangements. (probably also best to provide my phone no on the information /debrief sheets – 01244 513193)

13. Will consent be written?

Yes ☐ No ☒

*Notes: If **yes**, include a consent form as an appendix. If **no**, describe and justify an alternative procedure (verbal, electronic etc.) in the space below.*
Guidance on how to draft Participant Information sheet and Consent form can be found on PS6001 Moodle space and in the Handbook.

As above: completion and submission of the questionnaire will assume that informed consent has been given. This will be explained to them in the information sheet.

14. Describe the information given to participants. Indicate if and why any information on procedures or purpose of the study will be withheld.

Notes: Include an Information Sheet that sets out the purpose of the study and what will be required of the participant as appendices and refer to it as appropriate. If any information is to be withheld, justify this decision. More than one Information Sheet may be necessary.

There will be no deception involved in the study. Participants will be given a brief background into the study to give them some understanding as to why the study is taking place. They will be made aware of the aims of the study and the procedure they will undertake in the information sheet, where they will also be told of the benefits of taking part in the study.

15. Indicate if any personally identifiable information is to be made available beyond the research team. (eg: a report to an organisation)

Notes: If so, indicate to whom and describe how confidentiality and anonymity will be maintained at all stages.

None

16. Describe any payments, expenses or other benefits and inducements offered to participants.

Notes: Give details. If it is monetary say how much, how it will be paid and on what basis is the amount determined. Indicate RPS credits.

University of Chester participants completing the questionnaire through the RPS scheme will each receive 3 SONA credits. There will be no recompense to other participants.

17. Describe the information about the investigation given to participants at the end of the study.

Notes: Give details of debriefings, ways of alleviating any distress that might be caused by the study and ways of dealing with any clinical problem that may arise relating to the focus of the study.

In the debrief sheet which is given after completion (See Appendix 4), participants will be thanked for their involvement in the study and be reminded of how their data and this study will impact the topic area. They will, additionally, be reminded that their data will remain anonymous and confidential within the research team. Participants will be given the researchers' contact details if they wish to find out more about the research topic or the study after completion. Participants will also be provided with helplines in case they have suffered distress during their participation. The aims and hypotheses of the study will additionally be stated in the debriefing sheet.

18. Describe data security arrangements for during and after the study.

Notes: Digital data stored on a computer requires compliance with the Data Protection Act; indicate if you have discussed this with your supervisor and describe any special circumstances that have been identified from that discussion. Say who will have access to participants' personal data and for how long personal data will be stored or accessed after the study has ended.

SIGNATURES OF THE RESEARCH TEAM

Notes: The primary applicant and all co-applicants must sign and date the form. Scanned or electronic signatures are acceptable.

Appendix B: **Facebook, Twitter, and Instagram Advertisement**

We are carrying out a study on the long-term effects of parental divorce. If you are over 18 years old, it would be greatly appreciated if you could spare approximately 30 minutes to complete the online survey, whether or not your parents are divorced, as both conditions are just as important. If you decide that you wish to take part please press on the link below this message and this will then provide you with the link to the study. The link will then take you to the survey where you will be presented with an information sheet before completion, providing you with all the information you will need to know about the survey and the study.

Appendix C: Questionnaire

Information sheet (Social Media Recruitment)

You have been invited to take part in a research study that aims to examine the long-term effects of parental divorce upon self-esteem, adult attachment style, self-efficacy, anxiety and depression. Participants must be over the age of 18, as the study aims to outline the long-term effects in adulthood. Both those from parental intact families and parentally divorced families are invited to complete this questionnaire as we are comparing the results between the two groups. Please read this information sheet carefully, before deciding to give informed consent and contribute the study. The study will be in questionnaire format and you will be asked to tick which answer is most applicable to you. This questionnaire is not designed to cause distress; however some may find answering some of the questions uncomfortable, if so please feel free not to answer any specific questions that you do not wish to. Participation in this study is entirely voluntary.

The online study will be followed by a debriefing form, which will give the contact details of the researchers and helpline numbers to access if distress is caused by any aspects of the online study. Please be aware that the questionnaire is for research purposes only and in no event should be used as a self-diagnostic tool. No personal or identifiable information will be obtained from you, therefore, you will remain completely anonymous throughout the entire study. You have the right to withdraw from the study at any time during or before completion of the questionnaire by simple exiting the study or site – but we advise that you still carry on clicking the 'next' button until you reach the debrief sheet. Once you have completed and submitted the study you will no longer be able to withdraw your data as it will be impossible to identify which data belongs to you. Completion and submission of this online study will be taken as informed consent. Data will be stored and kept on password encrypted computers and USB sticks, data collected will be stored until five years after publication. Partially completed data will be destroyed. The study should take no longer than 30 minutes to complete and completion of the questionnaire will be very much appreciated.

Thank you for taking the time to read this information sheet.

Information sheet (RPS Recruitment)

You have been invited to take part in a research study that aims to examine the long-term effects of parental divorce upon self-esteem, adult attachment style, self-efficacy, anxiety and depression. Participants must be over the age of 18, as the study aims to outline the long-term effects in adulthood. Both those from parental intact families and parentally divorced families are invited to complete this questionnaire as we are comparing the results between the two groups. Please read this information sheet carefully, before deciding to give informed consent and contribute the study. The study will be in questionnaire format and you will be asked to tick which answer is most applicable to you. This questionnaire is not designed to cause distress; however some may find answering some of the questions uncomfortable, if so please feel free not to answer any specific questions that you do not wish to. Participation in this study is entirely voluntary.

The online study will be followed by a debriefing form, which will give the contact details of the researchers and helpline numbers to access if distress is caused by any aspects of the online study. Please be aware that the questionnaire is for research purposes only and in no event should be used as a self-diagnostic tool. No personal or identifiable information will be obtained from you, therefore, you will remain completely anonymous throughout the entire study. You have the right to withdraw from the study at any time during or before completion of the questionnaire by simple exiting the study or site – but we advise that you still carry on clicking the 'next' button until you reach the debrief sheet. Once you have completed and submitted the study you will no longer be able to withdraw your data as it will be impossible to identify which data belongs to you. Completion and submission of this online study will be taken as informed consent. Data will be stored and kept on password encrypted computers and USB sticks, data collected will be stored until five years after publication. Partially completed data will be destroyed. The study should take no longer than 30 minutes to complete and completion of the questionnaire will be very much appreciated. For taking part in this study you will be rewarded with three SONA credits.

Thank you for taking the time to read this information sheet.

Directions: Please indicate your beliefs about the following statements by highlighting the response that corresponds to your opinions towards each statement. There are no right or wrong answers. Using the scales below, please respond to each statement as truthfully as you can.

Q1. Sex? Male ☐ Female ☐ Other ☐

Q2. What age are you? ☐

Q3 What nationality are you? British ☐ Caribbean ☐

Q4. Are you Religious? Yes ☐ No ☐

Q4a. If so, which religion? ……

Q5. How many siblings do you have? ☐

Q6. Are you currently in a relationship? Yes ☐ No ☐

Q7. Are your parents divorced or separated (including those whose parents lived together but never married)?

Yes ☐ No ☐

Q8. If yes, at what age were you when the separation happened? ☐

Please answer Q.9, 10 & 11 if your parents separated when you were still a dependent

Q9. Who remained the resident parent? Mother ☐ Father ☐ Other ☐

Q10. Did you maintain regular contact with the non-resident parent?

Yes ☐ No ☐ Sometimes ☐

Q11. Did your wishes influence how often you spent time with the non-resident parent?

Yes [ ] No [ ]

Q12. Did you experience conflict between your parents…

Pre –divorce? Yes ☐ No ☐

Post –divorce? Yes ☐ No ☐

Q13. Have you experienced step-parenting (or step-parent role)?

Stepmother? Yes ☐ No ☐ Stepfather? Yes ☐ No ☐

Q14. Are your mother's parents divorced? Yes ☐ No ☐

Q15. Are your father's parents divorced? Yes ☐ No ☐

Opinion of Self
This section asks about the VIEWS people hold about THEMSELVES.
Please reply to *all* the items.
Highlight your response choice for each item on the table:

Items	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1. I feel that I'm a person of worth, at least on an equal basis with others	1	2	3	4
2. At times I think I am no good at all	1	2	3	4
3. I take a positive attitude toward myself	1	2	3	4
4. I am able to do things as well as most other people	1	2	3	4
5. I feel I do not have much to be proud of.	1	2	3	4
6. All in all, I am inclined to feel that I am a failure	1	2	3	4
7. On the whole, I am satisfied with myself	1	2	3	4
8. I wish I could have more respect for myself	1	2	3	4
9. I certainly feel useless at times	1	2	3	4
10. I feel that I have a number of good qualities	1	2	3	4

(RSES, Rosenberg, 1965)

Relationship Satisfaction Scale (Hendrick, 1988)
Please answer all questions by highlighting the most appropriate response to you.

	Low				High
1. How well does your partner meet your needs?	1	2	3	4	5
2. In general, how satisfied are you with your relationship?	1	2	3	4	5
3. How good is your relationship compared to most?	1	2	3	4	5
4. How often do you wish you hadn't gotten into this relationship?	1	2	3	4	5
5. To what extent has your relationship met your original expectations?	1	2	3	4	5
6. How much do you love your partner?	1	2	3	4	5
7. How many problems are there in your relationship?	1	2	3	4	5

Relationship Structures – Revised (Fraley, Niedenthal, Marks, Brumbaugh & Vicary, 2006)
Please answer the following questions about your **mother or a mother-like** figure *(if you had no mother or mother-like figure, please skip this section)*

ITEMS	VERY STRONGLY AGREE	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	VERY STRONGLY DISAGREE
1. It helps to turn to this person in times of need.	1	2	3	4	5	6	7
2. I usually discuss my problems and concerns with this person	1	2	3	4	5	6	7
3. I talk things over with this person.	1	2	3	4	5	6	7

4. I find it easy to depend on this person	1	2	3	4	5	6	7
5. I don't feel comfortable opening up to this person	1	2	3	4	5	6	7
6. I prefer not to show this person how I feel deep down.	1	2	3	4	5	6	7
7. I often worry that this person doesn't really care for me.	1	2	3	4	5	6	7
8. I'm afraid that this person may abandon me.	1	2	3	4	5	6	7
9. I worry that this person won't care about me as much as I care about him or her.	1	2	3	4	5	6	7

Please answer the following questions about your **father or a father-like** figure *(if you had no father or father-like figure, please skip this section)*

ITEMS	VERY STRONGLY AGREE	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	VERY STRONGLY DISAGREE
1. It helps to turn to this person in times of need.	1	2	3	4	5	6	7
2. I usually discuss my problems and concerns with this person	1	2	3	4	5	6	7
3. I talk things over with this person.	1	2	3	4	5	6	7
4. I find it easy to depend on this person	1	2	3	4	5	6	7
5. I don't feel comfortable opening up to this person	1	2	3	4	5	6	7
6. I prefer not to show this person how I feel deep down.	1	2	3	4	5	6	7
7. I often worry that this person doesn't really care for me.	1	2	3	4	5	6	7
8. I'm afraid that this person may abandon me.	1	2	3	4	5	6	7
9. I worry that this person won't care about me as much as I care about him or her.	1	2	3	4	5	6	7

Please answer the following questions about the **sibling that you feel closest to** *(if you had no sibling or sibling-like figure, please skip this section)*

ITEMS	VERY STRONGLY AGREE	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	VERY STRONGLY DISAGREE
1. It helps to turn to this person in times of need.	1	2	3	4	5	6	7
2. I usually discuss my problems and concerns with this person	1	2	3	4	5	6	7
3. I talk things over with this person.	1	2	3	4	5	6	7
4. I find it easy to depend on this person	1	2	3	4	5	6	7
5. I don't feel comfortable opening up to this person	1	2	3	4	5	6	7
6. I prefer not to show this person how I feel deep down.	1	2	3	4	5	6	7
7. I often worry that this person doesn't really care for me.	1	2	3	4	5	6	7
8. I'm afraid that this person may abandon me.	1	2	3	4	5	6	7
9. I worry that this person won't care about me as much as I care about him or her.	1	2	3	4	5	6	7

Experiences in Close Relationships

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling how much you agree or disagree with it.

Items	**Disagree Strongly**			**Neutral**			**Agree Strongly**
1. I prefer not to show a partner how I feel deep down.	1	2	3	4	5	6	7
2. I worry about being abandoned.	1	2	3	4	5	6	7
3. I am very comfortable being close to romantic partners	1	2	3	4	5	6	7
4. I worry a lot about my relationships	1	2	3	4	5	6	7
5. Just when my partner starts to get close to me I find myself pulling away.	1	2	3	4	5	6	7
6. I worry that romantic partners won't care about me as much as I care about them	1	2	3	4	5	6	7
7. I get uncomfortable when a romantic partner wants to be very close.	1	2	3	4	5	6	7
8. I worry a fair amount about losing my partner.	1	2	3	4	5	6	7
9. I don't feel comfortable opening up to romantic partners.	1	2	3	4	5	6	7
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.	1	2	3	4	5	6	7
12. I often want to merge completely with romantic partners, and this sometimes scares them away.	1	2	3	4	5	6	7
13. I am nervous when partners get too close to me.	1	2	3	4	5	6	7
14. I worry about being alone	1	2	3	4	5	6	7
15. I feel comfortable sharing my private thoughts and feelings with my partner	1	2	3	4	5	6	7
16. My desire to be very close sometimes scares people away.	1	2	3	4	5	6	7
17. I try to avoid getting too close to my partner.	1	2	3	4	5	6	7
18. I need a lot of reassurance that I am loved by my partner.	1	2	3	4	5	6	7
19. I find it relatively easy to get close to my partner.	1	2	3	4	5	6	7
20. Sometimes I feel that I force my partners to show more feeling, more commitment.	1	2	3	4	5	6	7
21. I find it difficult to allow myself to depend on romantic partners.	1	2	3	4	5	6	7

22. I do not often worry about being abandoned.	1	2	3	4	5	6	7
23. I prefer not to be too close to romantic partners.	1	2	3	4	5	6	7
24. If I can't get my partner to show interest in me, I get upset or angry.	1	2	3	4	5	6	7
25. I tell my partner just about everything.	1	2	3	4	5	6	7
26. I find that my partner(s) don't want to get as close as I would like.	1	2	3	4	5	6	7
27. I usually discuss my problems and concerns with my partner.	1	2	3	4	5	6	7
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure	1	2	3	4	5	6	7
29. I feel comfortable depending on romantic partners.	1	2	3	4	5	6	7
30. I get frustrated when my partner is not around as much as I would like.	1	2	3	4	5	6	7
32. I get frustrated if romantic partners are not available when I need them.	1	2	3	4	5	6	7
33. It helps to turn to my romantic partner in times of need.	1	2	3	4	5	6	7
34. When romantic partners disapprove of me, I feel really bad about myself.	1	2	3	4	5	6	7
35. I turn to my partner for many things, including comfort and reassurance.	1	2	3	4	5	6	7
36. I resent it when my partner spends time away from me.	1	2	3	4	5	6	7

(ECR, Brennan, Clark & Shaver, 1998)

Hospital Anxiety & Depression Scale

Read each item and circle the box opposite the reply which comes closest to how you have been feeling in the past week. Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought out response. PLEASE REPLY TO ALL THE ITEMS. All information received in response to this questionnaire will be treated in strict confidence.

	CIRCLE YOUR CHOICE, ONE PER LINE			
1. I feel tense or 'wound up'	Most of the time	A lot of the time	Time to time, Occasionally	Not at all
2. I still enjoy the things I used to enjoy	Definitely as much	Not quite so much	Only a little	Hardly at all
3. I get a sort of frightened feeling as if something awful is going to happen	Very definitely and quite badly	Yes, but not too badly	A little, but it doesn't worry me	Not at all
4. I can laugh and see the funny side of things	As much as I always could	Not quite so much now	Definitely not so much now	Not at all
5. Worrying thoughts go through my mind	A great deal of the time	A lot of the time	From time to time, but not too often	Only occasionally
6. I feel cheerful	Not at all	Not often	Sometimes	Most of the time
7. I can sit at ease and feel relaxed	Definitely	Usually	Not often	Not at all
8. I feel as if I am slowed down	Nearly all the time	Very often	Sometimes	Not at all
9. I get a sort of frightened feeling like 'butterflies' in the stomach	Not at all	Occasionally	Quite often	Very often
10. I have lost interest in my appearance	Definitely	I don't take so much care as I should	I may not take quite as much care	I take just as much care as ever
11. I feel restless as if I have to be on the move	Very much indeed	Quite a lot	Not very much	Not at all
12. I look forward with enjoyment to things	As much as ever I did	Rather less than I used to	Definitely less than I used to	Hardly at all
13. I get sudden feelings of panic	Very often indeed	Quite often	Not very often	Not at all
14. I can enjoy a good book, radio or TV programme	Often	Sometimes	Not often	Very seldom

(HADS, Zigmond & Snaith, 1983)

Debriefing

Thank you for taking the time to complete this questionnaire, it is greatly appreciated. All data collected will remain confidential, and the data will be published anonymously. I would like to remind you that you can no longer withdraw from the study, as you have completed and submitted the questionnaire.

If you would like to find out more about the topic area or follow up on the results of the study once completed, contact details are listed below.

Lead researcher: Dr Linda O'Neill – l.oneill@chester.ac.uk
Department of Psychology, University of Chester, Parkgate Road, Chester, CH1 4BJ
Number (UK): 01244 513193
Research team:

If your participation in this online study has caused you distress in any way and you would like to seek help and guidance, please contact one of the following:

Student Support and Guidance: 1st Floor: Binks Building, Chester Campus, University of Chester, Parkgate Road, Chester, CH1 4BJ (for University of Chester students only)
- Number (UK): 01244 511550
- Email: student.welfare@chester.ac.uk

Samaritans
- Site: http://www.samaritans.org/how-we-can-help-you/contact-us
- Supporter Line (UK): (+44) 116 123
- Email: jo@samaritans.org

The aims of the present study are to examine the long-term effects of parental divorce on attachment styles, current levels of relationship satisfaction, coping strategies, self-esteem, anxiety and depression and to examine if any levels of these variables are significantly different between those whose parents have divorced and those whose parents remain intact. We will also examine if any particular factor can significantly predict levels of self-esteem.

Appendix D – SPSS Output

Means

Divorced Parents

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SlfEstm	129	14.00	40.00	30.0853	5.67620
Mavoid	127	1.00	7.00	3.1864	1.45382
Manx	132	1.00	7.00	2.4596	1.61236
Favoid	125	1.00	7.00	4.0600	1.72471
Fanx	124	1.00	7.00	2.9919	1.83977
Ravoid	131	1.29	8.57	4.0534	1.60184
Ranx	129	1.29	8.29	4.6501	1.77368
Anxiety	136	0	21	8.84	4.428
Depression	137	0	14	4.74	3.281
Valid N (listwise)	93				

Non-Divorced Parents

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SlfEstm	179	17.00	40.00	31.4246	5.63583
Mavoid	183	1.00	6.00	2.6794	1.21655
Manx	188	1.00	7.00	1.8475	1.23445
Favoid	177	1.00	6.67	3.0311	1.19493
Fanx	180	1.00	6.00	1.8204	1.13484
Ravoid	176	1.29	8.29	3.6765	1.60482
Ranx	172	1.29	8.57	4.1005	1.70188
Anxiety	186	0	21	7.76	4.513
Depression	187	0	16	3.89	3.128
Valid N (listwise)	143				

Overall

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SlfEstm	310	14.00	40.00	30.8677	5.66759
Mavoid	312	1.00	7.00	2.8868	1.33641
Manx	322	1.00	7.00	2.0983	1.42967
Favoid	304	1.00	7.00	3.4556	1.51794
Fanx	306	1.00	7.00	2.2930	1.56749
Ravoid	309	1.29	8.57	3.8308	1.61108
Ranx	303	1.29	8.57	4.3244	1.75180
Anxiety	324	0	21	8.21	4.489
Depression	326	0	16	4.24	3.215
Valid N (listwise)	238				

Cronbach's Reliability

Romantic Attachment

Reliability Statistics

Cronbach's Alpha	N of Items
.947	36

HADS

Reliability Statistics

Cronbach's Alpha	N of Items
.895	14

Self-esteem

Reliability Statistics

Cronbach's Alpha	N of Items
.910	10

ECR – RS (mother)

Reliability Statistics

Cronbach's Alpha	N of Items

.918	9

ECR – RS (father)

Reliability Statistics

Cronbach's Alpha	N of Items
.926	9

ECR – RS (sibling)

Reliability Statistics

Cronbach's Alpha	N of Items
.926	9

ECR – RS (combined)

Reliability Statistics

Cronbach's Alpha	N of Items
.935	27

Normality Tests

Anxiety

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Anxiety	324	98.5%	5	1.5%	329	100.0%

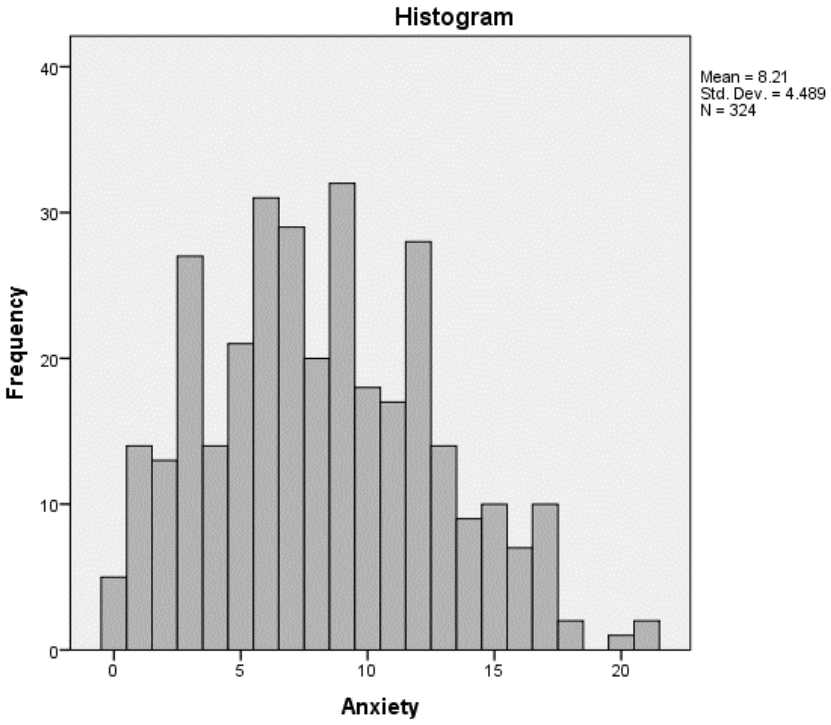
Descriptives

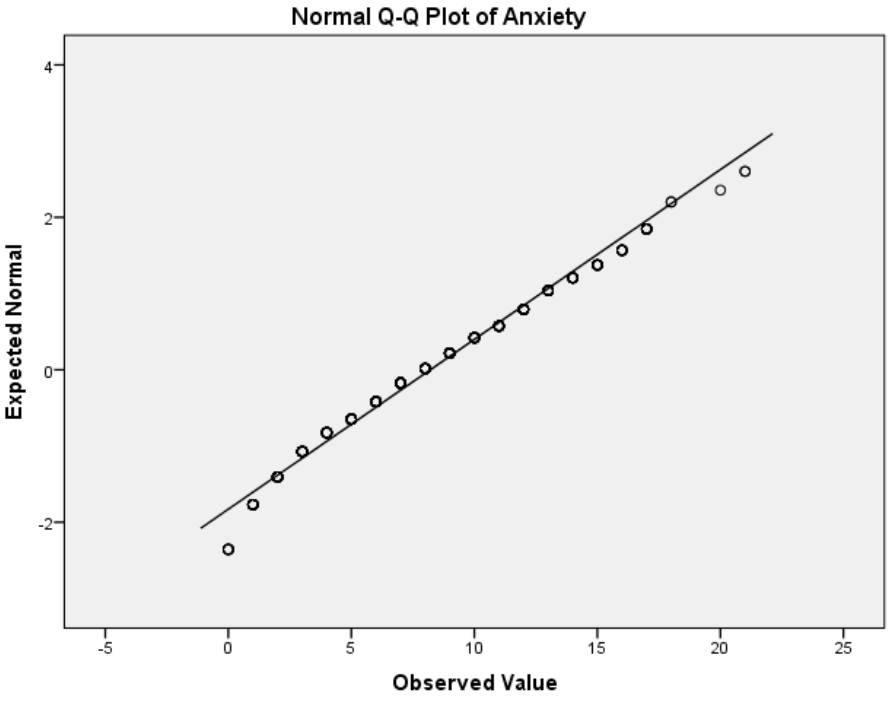
			Statistic	Std. Error
Anxiety	Mean		8.21	.249
	95% Confidence Interval for Mean	Lower Bound	7.72	
		Upper Bound	8.70	
	5% Trimmed Mean		8.10	
	Median		8.00	
	Variance		20.154	
	Std. Deviation		4.489	
	Minimum		0	
	Maximum		21	
	Range		21	
	Interquartile Range		7	
	Skewness		.315	.135
	Kurtosis		-.468	.270

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Anxiety	.082	324	.000	.978	324	.000

a. Lilliefors Significance Correction


Histogram
Mean = 8.21
Std. Dev. = 4.489
N = 324
Frequency
Anxiety
0
10
20
30
40
0
5
10
15
20


Normal Q-Q Plot of Anxiety
Expected Normal
Observed Value
-2
0
2
4
-5
0
5
10
15
20
25

Depression

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Depression	326	99.1%	3	0.9%	329	100.0%

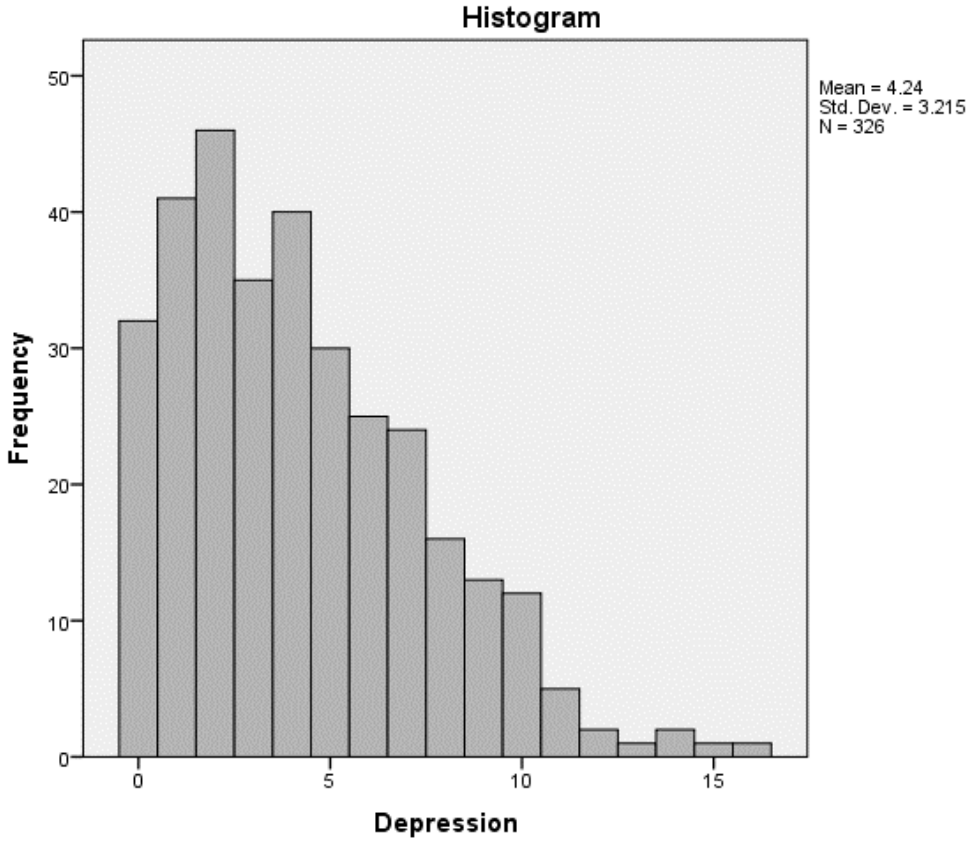
Descriptives

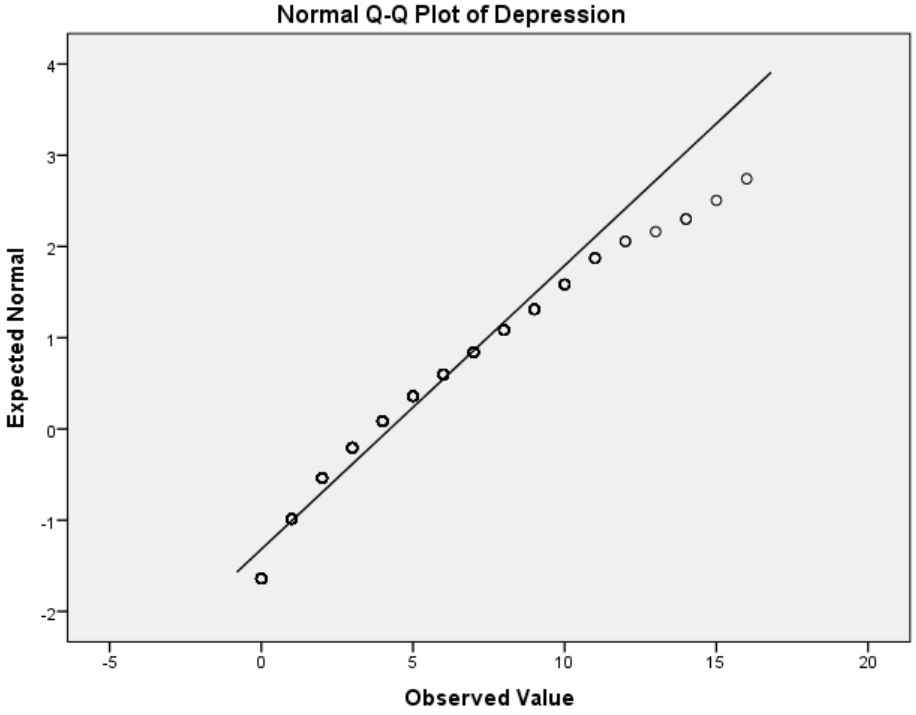
			Statistic	Std. Error
Depression	Mean		4.24	.178
	95% Confidence Interval for Mean	Lower Bound	3.89	
		Upper Bound	4.59	
	5% Trimmed Mean		4.05	
	Median		4.00	
	Variance		10.336	
	Std. Deviation		3.215	
	Minimum		0	
	Maximum		16	
	Range		16	
	Interquartile Range		4	
	Skewness		.808	.135
	Kurtosis		.349	.269

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Depression	.125	326	.000	.934	326	.000

a. Lilliefors Significance Correction


Histogram
Mean = 4.24
Std. Dev. = 3.215
N = 326
Frequency
Depression
0
10
20
30
40
50
0
5
10
15


Normal Q-Q Plot of Depression
Expected Normal
Observed Value
-2
-1
0
1
2
3
4
-5
0
5
10
15
20

T-Tests

Self esteem

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
SlfEstm	Yes	129	30.0853	5.67620	.49976
	No	179	31.4246	5.63583	.42124

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SlfEstm	Equal variances assumed	.143	.705	-2.051	306	.041	-1.33931	.65285	-2.62395	-.05467
	Equal variances not assumed			-2.049	274.757	.041	-1.33931	.65361	-2.62603	-.05259

Mother Attachment

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Manx	Yes	132	2.4596	1.61236	.14034
	No	188	1.8475	1.23445	.09003

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Manx	Equal variances assumed	22.401	.000	3.843	318	.000	.61208	.15926	.29873	.92542
	Equal variances not assumed			3.671	233.332	.000	.61208	.16673	.28358	.94058

Mother Avoidance

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Mavoid	Yes	127	3.1864	1.45382	.12901
	No	183	2.6794	1.21655	.08993

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Mavoid	Equal variances assumed	3.451	.064	3.328	308	.001	.50693	.15231	.20724	.80663
	Equal variances not assumed			3.224	239.121	.001	.50693	.15726	.19715	.81672

Father Attachment

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Fanx	Yes	124	2.9919	1.83977	.16522
	No	180	1.8204	1.13484	.08459

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Fanx	Equal variances assumed	31.001	.000	6.859	302	.000	1.17157	.17080	.83546	1.50767
	Equal variances not assumed			6.312	187.097	.000	1.17157	.18561	.80541	1.53772

Father Avoidance

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Favoid	Yes	125	4.0600	1.72471	.15426
	No	177	3.0311	1.19493	.08982

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Favoid	Equal variances assumed	23.579	.000	6.125	300	.000	1.02893	.16798	.69836	1.35949
	Equal variances not assumed			5.764	205.667	.000	1.02893	.17851	.67699	1.38086

Romantic Attachment

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Ranx	Yes	129	4.6501	1.77368	.15616
	No	172	4.1005	1.70188	.12977

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Ranx	Equal variances assumed	.181	.671	2.723	299	.007	.54956	.20185	.15234	.94677
	Equal variances not assumed			2.707	269.584	.007	.54956	.20304	.14980	.94931

Romantic Avoidance

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Ravoid	Yes	131	4.0534	1.60184	.13995
	No	176	3.6765	1.60482	.12097

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Ravoid	Equal variances assumed	.002	.965	2.037	305	.043	.37689	.18504	.01278	.74100
	Equal variances not assumed			2.037	280.501	.043	.37689	.18499	.01275	.74103

Anxiety

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Anxiety	Yes	136	8.84	4.428	.380
	No	186	7.76	4.513	.331

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Anxiety	Equal variances assumed	.017	.898	2.128	320	.034	1.075	.505	.081	2.069
	Equal variances not assumed			2.134	294.140	.034	1.075	.504	.084	2.066

Depression

Group Statistics

	PD	N	Mean	Std. Deviation	Std. Error Mean
Depression	Yes	137	4.74	3.281	.280
	No	187	3.89	3.128	.229

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Depression	Equal variances assumed	2.357	.126	2.371	322	.018	.851	.359	.145	1.558
	Equal variances not assumed			2.353	285.015	.019	.851	.362	.139	1.564

Correlations

	Anxiety	Depression	Ranx	Ravoid	Manx	Mavoid	Fanx	Favoid	SlfEstm
Anxiety	1	.713**	.437**	.090	.194*	.186*	.272**	.184*	-.581**
		.000	.000	.307	.027	.037	.002	.041	.000
	136	136	128	131	131	126	123	124	128
Depression	.713**	1	.376**	.226**	.265**	.181*	.339**	.216*	-.664**
	.000		.000	.010	.002	.042	.000	.016	.000
	136	137	129	131	132	127	124	125	129
Ranx	.437**	.376**	1	.285**	.345**	.290**	.383**	.216*	-.539**
	.000	.000		.001	.000	.001	.000	.019	.000
	128	129	129	123	125	119	116	117	122
Ravoid	.090	.226**	.285**	1	.192*	.090	.231*	.285**	-.312**
	.307	.010	.001		.031	.328	.012	.002	.000
	131	131	123	131	126	121	118	119	123
Manx	.194*	.265**	.345**	.192*	1	.678**	.353**	.049	-.283**
	.027	.002	.000	.031		.000	.000	.591	.001
	131	132	125	126	132	125	120	121	125
Mavoid	.186*	.181*	.290**	.090	.678**	1	.163	.054	-.177
	.037	.042	.001	.328	.000		.081	.565	.054
	126	127	119	121	125	127	116	117	119
Fanx	.272**	.339**	.383**	.231*	.353**	.163	1	.569**	-.391**
	.002	.000	.000	.012	.000	.081		.000	.000
	123	124	116	118	120	116	124	121	117
Favoid	.184*	.216*	.216*	.285**	.049	.054	.569**	1	-.285**
	.041	.016	.019	.002	.591	.565	.000		.002
	124	125	117	119	121	117	121	125	118
SlfEstm	-.581**	-.664**	-.539**	-.312**	-.283**	-.177	-.391**	-.285**	1
	.000	.000	.000	.000	.001	.054	.000	.002	
	128	129	122	123	125	119	117	118	129

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Regression – Anxiety Score

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.560[a]	.314	.278	3.657	1.878

a. Predictors: (Constant), SlfEstm, Mavoid, Favoid, Ranx, Manx

b. Dependent Variable: Anxiety

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	15.492	3.430		4.516	.000		
	Ranx	.571	.248	.237	2.301	.024	.678	1.475
	Favoid	.080	.218	.033	.368	.714	.898	1.114
	Mavoid	.095	.350	.032	.271	.787	.526	1.901
	Manx	-.186	.320	-.072	-.581	.562	.477	2.097
	SlfEstm	-.319	.081	-.406	-3.956	.000	.685	1.460

a. Dependent Variable: Anxiety

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ranx, Mavoid, Ravoid, Fanx, SlfEstm, Favoid, Manx[b]	.	Enter

a. Dependent Variable: Anxiety

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647[a]	.419	.401	3.342

a. Predictors: (Constant), Ranx, Mavoid, Ravoid, Fanx, SlfEstm, Favoid, Manx

b. Dependent Variable: Anxiety

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1853.080	7	264.726	23.699	.000[b]
	Residual	2569.210	230	11.170		
	Total	4422.290	237			

a. Dependent Variable: Anxiety

b. Predictors: (Constant), Ranx, Mavoid, Ravoid, Fanx, SlfEstm, Favoid, Manx

Coefficients[a]

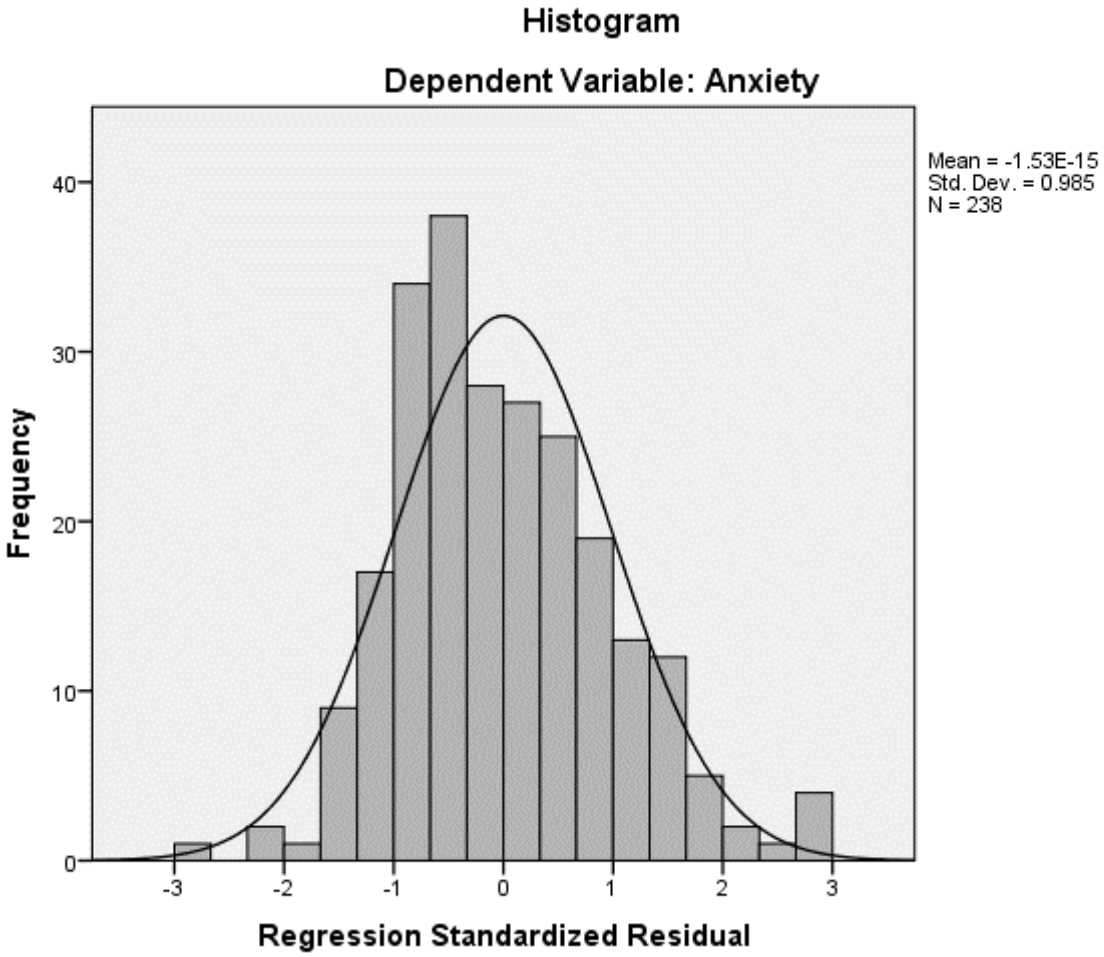
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.827	2.109		9.401	.000
	SlfEstm	-.413	.049	-.523	-8.382	.000
	Mavoid	-.034	.216	-.010	-.156	.876
	Manx	-.050	.234	-.017	-.214	.831
	Favoid	-.076	.199	-.026	-.379	.705
	Fanx	.079	.216	.028	.368	.713
	Ravoid	-.472	.148	-.180	-3.199	.002
	Ranx	.699	.149	.282	4.682	.000

a. Dependent Variable: Anxiety

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.89	16.78	8.05	2.796	238
Residual	-9.080	9.999	.000	3.292	238
Std. Predicted Value	-2.204	3.119	.000	1.000	238
Std. Residual	-2.717	2.992	.000	.985	238

a. Dependent Variable: Anxiety


Histogram
Dependent Variable: Anxiety
Mean = -1.53E-15
Std. Dev. = 0.985
N = 238
Frequency
40
30
20
10
0
-3
-2
-1
0
1
2
3
Regression Standardized Residual

Regression – Depression

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.648[a]	.419	.372	2.585	1.822

a. Predictors: (Constant), Fanx, Ravoid, Mavoid, SlfEstm, Ranx, Favoid, Manx

b. Dependent Variable: Depression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	15.324	2.597		5.902	.000		
	Ranx	.055	.192	.029	.285	.776	.653	1.531
	Favoid	.018	.199	.010	.090	.929	.581	1.720
	Mavoid	.214	.272	.094	.790	.432	.481	2.078
	Manx	-.170	.264	-.085	-.643	.522	.388	2.576
	SlfEstm	-.368	.060	-.616	-6.103	.000	.671	1.491
	Ravoid	-.168	.179	-.084	-.939	.351	.848	1.180
	Fanx	.159	.213	.089	.745	.458	.484	2.067

a. Dependent Variable: Depression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Ranx, Mavoid, Ravoid, Fanx, SlfEstm, Favoid, Manx[b]	.	Enter

a. Dependent Variable: Depression

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.618[a]	.382	.363	2.514

a. Predictors: (Constant), Ranx, Mavoid, Ravoid, Fanx, SlfEstm, Favoid, Manx

b. Dependent Variable: Depression

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	902.422	7	128.917	20.398	.000[b]
	Residual	1459.963	231	6.320		
	Total	2362.385	238			

a. Dependent Variable: Depression

b. Predictors: (Constant), Ranx, Mavoid, Ravoid, Fanx, SlfEstm, Favoid, Manx

Coefficients[a]

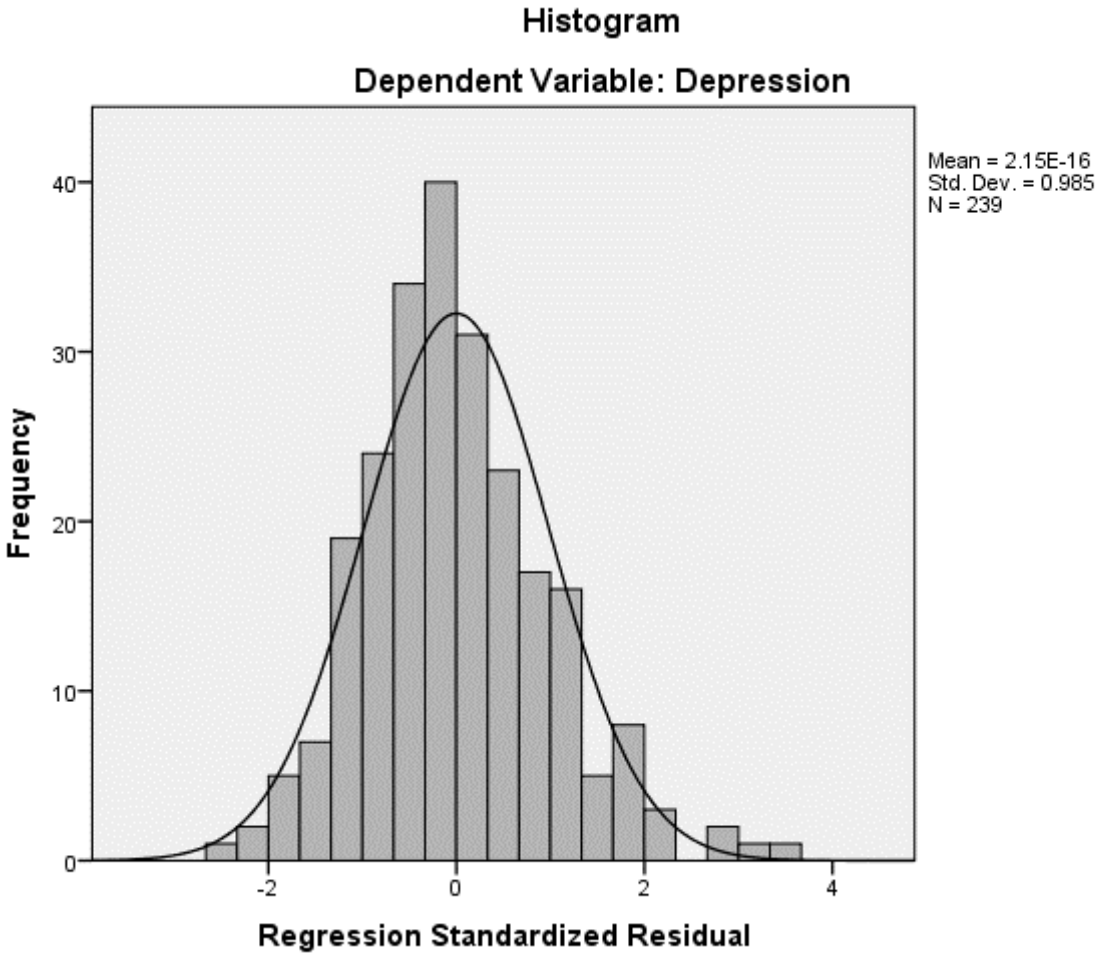
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	13.040	1.585		8.228	.000
	SlfEstm	-.321	.037	-.557	-8.682	.000
	Mavoid	.035	.161	.015	.217	.828
	Manx	.014	.175	.006	.080	.936
	Favoid	.047	.150	.023	.316	.752
	Fanx	.055	.162	.026	.337	.736
	Ravoid	.006	.111	.003	.052	.958
	Ranx	.117	.112	.065	1.041	.299

a. Dependent Variable: Depression

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.52	9.71	4.10	1.947	239
Residual	-6.076	8.741	.000	2.477	239
Std. Predicted Value	-1.841	2.877	.000	1.000	239
Std. Residual	-2.417	3.477	.000	.985	239

a. Dependent Variable: Depression


Histogram
Dependent Variable: Depression
Mean = 2.15E-16
Std. Dev. = 0.985
N = 239
Frequency
40
30
20
10
0
-2
0
2
4
Regression Standardized Residual